AMERICAN ANNALS OF THE DEAF

Official Organ

Conference of Executives of American Schools for the Deaf
Convention of American Instructors of the Deaf

Edited by

IRVING S. FUSFELD

Under the Direction of

PERCIVAL HALL, of the District of Columbia, 1939
FRANK M. DRIGGS, of Utah, *ex officio*
MADISON J. LEE, of Kentucky, 1939
ELWOOD A. STEVENSON, of California, 1945
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Executive Committee of the Conference

MARCH

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AMERICAN ANNALS OF THE DEAF

Preliminary Announcement of the Program of the Convention Meeting

THE Convention of American Instructors of the Deaf will meet at Teachers College, Columbia University, New York City, June 21 to 25, 1937, inclusive. It is the desire of all concerned to make this the largest and most helpful meeting of its kind. Among the interesting features of the program will be:

1. Addresses and Lectures
   It is hoped to have each day an inspiring address by a leading educator or a leader in other fields of thought.
2. Lectures
   There will be a number of lectures by prominent educators who are specialists in their respective fields.
3. Sectional Group Sessions
   Supervision, Preschool and Kindergarten, Development of Speech and Speech Reading, Rhythm, Subject Matter, Vocational Training and Art, Health and Physical Education, Social and Character Training.
4. Round Tables or Panels
   These will offer informal discussions of any subject that may arise and be termed worthy of discussion.
5. Demonstrations of School Work or Practica
   Teachers, as a rule, find more help from observation of such demonstrations than from possibly any other feature of a convention. Arrangements will be made for such demonstrations in practically every field required by the teacher. The most important of these will be continued during the following week for all teachers who enroll as members of the Summer School.

6. Social Workers
   Those interested in the deaf, whether in school or in after life, will hold meetings to discuss their problems.
7. Meetings for Parents
   Arrangements will be made for parents' meetings where subjects of interest, particularly with the young deaf child, may be discussed by both the parent and the teacher.
8. The Association Normal School
   This school will immediately follow the convention meeting. In fact, those who register at the convention for the Summer School will receive college credits for attendance and report on the demonstrations or practica.
9. Board and Lodging
   All meals may be had at the cafeteria or dining room of Teachers College. Many of the students spend less than a $1.00 a day for their meals. Lodging in the Men's Residence Halls of the University will be $1.00 a day. Women delegates can have lodging at Whittier or Seth Low Halls at the transient rate of 75c or $1.00 a person daily. Those who wish to attend the Summer School can have a room from $23.00 to $24.00 for the entire period, or $60.00 to $90.00 for room and board for the entire period.

The cultural opportunities of New York City, as well as its many other marks of interest, promise an attractive background for the meeting of the Convention, and it is hoped teachers of the deaf will respond with a large attendance.

For further information address the Secretary of Teachers College, 525 West 120th Street, New York City.

HARRIS TAYLOR, *President*

Finding Men for Jobs

By B. M. SCHOWE, B.A.
478 Madison Avenue, Akron, Ohio

TO THE average job hunter employment offices must loom like impregnable citadels which may be scaled only when the stars are inclined, and then only by means of arts as devious as anything that Jurgen knew. This reflection is inspired by some years of experience interviewing deaf applicants in an employment office, and more recently by the surveys of employment opportunities conducted by organizations of the deaf in several states.

A nation-wide study of the same subject was completed only a few years ago by the U. S. Office of Education. The information so collected, although slow in coming to light, must surely prove more comprehensive and useful than anything a limited state survey could hope to uncover. Nevertheless, the state organizations seemed to believe that an investigation conducted by amateurs could turn up information that would be worth the expenditure of considerable time and money.

The information these surveys reported proved interesting to read even though we may express a doubt that it has any practical value. Moreover, it should be noted in this connection that the dilettante survey business is not free from all possibility of actual injury to the cause of deaf employment in the long run. The employment office managers who have to bear the brunt of the investigators' barrages of questions may find their patience exhausted with the repetition of calls from different surveying agencies. When this happens, the only product of the survey will be to get a nuisance rating for deaf employment in general.

It seems clear that the state surveys were not organized for the straightforward purpose of gathering more reliable statistical data concerning employment opportunities. What these state investigators wanted was simply jobs for the jobless—here and now. Their surveys were more in the nature of quests for a magic formula that would (with a wave of the

hand) transmute the dross of unemployment into the gold of wage-paying jobs.

The emphasis, as it so often is in cases of this kind, was all centered on finding out what was wrong with the other fellow, in this case the employment managers who had proved to be anything but lavish with jobs. Nothing was done, so far as the writer can learn, to discover how unemployed deaf people can be better trained and equipped for the responsibilities that go with good jobs.

Is it safe to assume that nothing save prejudice keeps deaf workers off the payroll? Is there anything that really can be done to improve the chances for deaf men and women to get—and keep—jobs?

There is, of course, some luck in landing a job. A man is fortunate indeed if he can arrive at the employment office on the particular day when his skills and abilities happen to be in special demand. But there is no magic in it. The employment manager, in fact, looks on the business of fitting men with jobs as something of a science. There are definite rules to be applied with skill and discretion. The man who "fits" will have little difficulty in getting a job. The question is: At what points then do the deaf fail to come up to requirements?

The writer is not, of course, an employment manager. It would be more accurate, perhaps, to say that he is an associate of employment managers. The association has been fairly constant since he was graduated from Gallaudet College in 1918. During a considerable part of that time he has worked in the employment office of the Firestone Tire and Rubber Company on special assignment and interviewed deaf applicants as a convenience for all parties, rather than because it was a part of his regular duties.

That gives his background in brief and it will not be difficult to understand his sentiment when he says that his natural sympathies are always with the deaf job hunter. He hopes to see him land his job, no matter who he is or what. The writer, in a manner of speaking, is the deaf person's advocate. Nevertheless, he cannot always recommend the deaf applicant for employment. And the reason he cannot

always recommend employment is, in a large measure, the subject of this paper.

If we had time to attempt an exhaustive study of the subject, we might classify and cross classify under several different heads the reasons why deaf applicants are turned down. We cannot attempt a detailed classification within the limits of this paper. The reader, however, may do well to keep in mind that such an analytical organization of the problem is possible and that it would help to focus attention on essential elements.

Welfare workers will be concerned especially with rejections that develop out of misconception of the limitations which surround deaf workers and with arbitrary office rules that bar the way to jobs. The educator will be more particularly interested in training deficiencies, physical and mental, and also, perhaps, in temperamental defects. Neither will be touched in cases where deafness is *correctly* the reason for rejection. For we all recognize, the writer believes, that there are some barriers which we may not hurdle.

Every possible reason for rejection is of interest to the employment manager. He cannot afford to make errors on any account. And it is this fact that the people trying to improve deaf employment most often overlook. Yet the responsibilities and the mental attitude of the man who hires are elements of prime importance.

He is not infallible in his judgments certainly. Neither is he a careless trifler with the fates of people looking for work. But he does, of necessity, look at employment from the other side. While the rest of us are trying to find jobs, the employment manager is steadily looking for men qualified to fill the jobs he has, or expects to have in the near future.

In the very nature of things, it is impossible for him to rate stories of personal hardship or misfortune as valid qualifications for a job. Nearly everyone who passes through his office has a hard luck story and believes firmly that his own need is greater than that of any one else. But no scales have been perfected for measuring human needs. Jobs cannot be dispensed as prizes for the most heart-rending stories of

personal misfortune. The nearest that the employment manager can come to an intelligent handling of this factor is to set up an office rule that men with a certain number of dependents will be given jobs first. Beyond that he cannot go in this direction. If you want to get a job, it is necessary to approach the man who hires with values a great deal more impressive than a first-class hard luck story.

What, then, are the values which are likely to be effective?

Taking deaf workers as a whole, there is probably no argument that will strike with such force as the contention that deafness is less of an obstruction to communication, and therefore a handicap to successful employment, than it is a ready-made opportunity for the foreman and factory supervision to establish the kind of relations with the worker which modern factory management has found to be so difficult in mass production industries.

We may safely concede that the new deaf worker is more dependent on special consideration from his immediate superiors than the beginner who can hear. However, a little extra patience and written instruction is not wasted if by that means the foreman can come to intimate personal contact with his man which is comparable to years of ordinary fair dealing in the case of most hearing workmen.

This is no mean item. Big industry is spending millions of dollars to this same end directly or indirectly, every year. The actual amount cannot be calculated because no one can say definitely where expenditures for this purpose begin, or exactly where they end. The fact is that big industry today is too distant and impersonal in its dealings with the individual workman and must depend on expensive "welfare" projects to win him over to an attitude of co-operative partnership. One large employer has announced that he will distribute up to 11% of wages each year on various projects, all more or less directly devoted to this general purpose.

Even when the money is spent, however, the result is not at all certain—for the sound and simple reason that dollars do not buy employee goodwill in the end. A bit of extra patience while breaking in a deaf worker is a far more reliable method.

That is why we may say that the deafness of a worker may prove to be the foreman's opportunity.

But if we can discern a possible advantage in deaf workers at this point, we should not let the novelty of it blind us to the fact that the whole thing hangs a bit precariously on the reactions of the deaf worker himself. The benefits are not automatic by any means.

First of all, the deaf worker must be alert. The special demand he may make on the factory supervision must be reduced to the minimum. Next, he must have the perceptions to recognize special consideration when he gets it, and the innate honesty to value it accordingly. His sense of appreciation must be well developed.

This last is an exceedingly delicate point. It touches on the whole philosophy and art of being deaf.

The deaf cannot approach life with an apology for existence. Servility is out of place. For self-justification the deaf are bound to believe that the world has a place for them. The special consideration which is sometimes necessary is little more than common courtesy. They are correct in believing that they have a right to expect it.

Nevertheless, even common courtesy carries an obligation. Courtesy must be met with courtesy.

That is simple clear—not to say trite and sententious. Yet what proportion of the product of our schools for the deaf go out in the world equipped to recognize its force and to live up to its implications? How many of them have a manner which would impress an employment manager with their ability to go into the shop and work harmoniously with the organization in spite of the various inconveniences to which they were liable?

In one factory with which the writer is familiar, deaf workers are employed on machines where gasoline-powered trucks occasionally pass at a good rate of speed directly behind the machine operator. If a worker leans back, as he sometimes must, or if he steps around his machine for any reason, he may find himself directly in the path of the truck.

A few days after one deaf worker started on these machines, he leaned back at the wrong time, and was bumped

by the truck. His shirt was torn, and a long red welt appeared on his back.

In the investigation which followed, the deaf worker testified: "I was attending strictly to business. If the truck had not come along so fast, I would have seen it and kept out of its way." The truck operator reported: "I blew my horn. Everybody had moved out of the aisle and the way was clear. Then this fellow stuck his shoulder out in front of the truck."

Both men were quite right and the foreman faced what appeared to be an unavoidable accident hazard as long as he kept the deaf worker on the job. The foreman is wholly responsible for just such hazards and his superiors rate it a very important item. Under the circumstances he could scarcely be blamed if he decided to take the deaf man off this operation. In fact, if he did anything else, it would be because he gave the matter more careful attention than the facts seemed to justify.

And this last is what he did. He had had long experience with deaf workers and had high regard for their adaptability. His decision might be stated this way: "There is little or no danger of serious injury from trucks of that kind. When those boys are better acquainted there isn't even much danger that anyone will get bumped around. I'll caution them both and let it go at that for the present."

Now this is, at the very least, a broad-gauge view. It is not necessary for us to prove that the foreman was moved to special consideration because he knew that the deaf man would have a hard time getting another job. In any case the deaf worker was placed under a certain obligation. He had been the beneficiary of consideration that was rather more than fair after a defect in his own hearing equipment had got him into trouble.

Perhaps it is asking too much to expect the deaf worker to understand the nature of his obligation to the foreman under these circumstances. The foreman's problem and viewpoint are too obscure. But what of his obligation to the trucker for extra caution in the future? This is a matter of prime importance. The trucker certainly will expect some

acknowledgment of his consideration. If he fails to get it, friction may develop which will cause the foreman to regret his generosity.

One need have no doubts about the deaf young man in this particular case. He had a winning way with him at all times and he won the friendly regard of the trucker in his normal stride.

Well and good! But does the reader, conversant with the foibles of the average deaf job hunter, have full confidence that any large proportion of them could have carried off the situation half so well?

Too many of them operate on the principle that they belong to an underprivileged minority and that the only way to preserve their self-respect is to face the world defiantly, or with callous indifference to the conventions and amenities of the majority. They are perfectly insulated against any recognition of the inconvenience their deafness may cause. They charge through life unmindful of the toes they tread on and can usually be found off in a corner whining that the world is in a conspiracy to deny them jobs.

We cannot pause here to take up the philosophy and art of being deaf. But we should recognize, I think, that a very delicate adjustment is required. There is no more profit in servility than there is in defiance. Somewhere between the two is the happy medium that brings, among other things, success on the job.

The bare fact that it is inconvenient to communicate with the deaf and sometimes hard to instruct them in their jobs is of less consequence to the employer, or employment manager, than the general understanding that they do not fit smoothly into the routine of employment office and factory. Their contacts with fellow workers are not merely a bit abnormal by reason of the unusual means of communication required. The slight abnormality is a minor consideration as long as there is no actual friction or antagonism in those contacts. The difficulty centers in the friction rather than in the abnormality itself. And it has been proved, I think, that most of the friction, if not all, can be avoided by deaf workers who have resources of character and training which en-

able them to smooth over the little irregularities which crop up.

Most employment men know that the deaf are reputed to have unusual manual dexterity and are less liable to distraction from the grind of repetitive processes. Some employment managers may be convinced that deaf workers, more often than not, are the stuff from which loyal, conscientious workmen are made. Still, the deaf applicant cannot be hired offhand, simply because he is deaf.

There may be half a dozen places where a new worker will be expected to answer when his name is called during the first few days before he is broken in and knows his way around. There will be no serious consequences if he does not answer, but too many minor irritations of this sort may mount up into major annoyances for foremen, fellow workers and everyone else concerned. It is necessary to be sure that the different functionaries along the line will give the deaf beginner due consideration, or that there is someone in the factory sufficiently interested to take the deaf man under his wing and smooth his path for the first few days.

To a certain extent, common courtesy is all that is required and this difficulty is more apparent than real. Nevertheless, it is necessary for the man who hires to have some assurance that supervision in the factory is ready to receive the deaf worker.

Accident hazards and possible conflict with compensation laws are the standard reasons for refusing to hire the deaf which are usually offered by employment managers who do not consider it worth their time to make a survey of operations to find the ones suitable for deaf workers, or to start looking for foremen who will not be averse to some special effort in order to get the deaf workers started. The hazards, however, more often than not, are merely excuses to cover up the general inertia.

It is a question, nevertheless, if the employment manager's responsibilities actually cover the obligation to take the steps necessary to admit deaf workers. And it is at this point that the government-paid employment agent for the deaf can really function effectively. There is a job of work

for him which requires qualifications of the top ranking. He must be familiar with the deaf, their peculiar susceptibility to vibrations of various kinds and the sound signals which are, or are not, actual accident hazards. He must understand the arts by which the deaf minimize their disability. Finally, the ideal man for this work would have broad experience with industrial processes and employment problems in general.

A competent survey of a plant by such an authority would do more to open it up for deaf workers than unlimited hours of persuasion by a social service enthusiast.

Of course, the deaf applicant cannot be hired because he is deaf. Landing a job is strictly an individual business and the qualifications of the individual finally must govern. In addition, each applicant must run the gauntlet of a considerable list of office rules based on current employment policies in the different establishments. These last are governed by changing economic conditions and may vary from day to day. While they last, however, they are as inflexible as any rule in the book.

For example, no one cares to trifle with the rule that no out-of-town residents may be hired as long as there is anyone on the local relief rolls who can do the work. Hiring only men with dependents is a rule with obvious advantages under certain circumstances. Equally obvious is the necessity for changing the rules when all the competent jobless men in these classifications have been hired. Such rules are arbitrary, but they are not capricious as they sometimes appear to the man looking for a job.

Rules that are more or less capricious do make their appearance from time to time in certain establishments. Some employment managers will hire only men who come recommended by one of their reliable employees.

Taken together, rules of this nature are a formidable barrier. They explain many of the difficulties that the deaf applicant encounters and indicate a field where welfare workers and employment agents for the deaf can be useful. For, if employment agents were familiar with these rules, they could, in many cases, prevent the deaf applicant from

running afoul of their provisions. And they could also make sure that the applicant's case was presented in the most favorable light. The deaf themselves lack the means for getting such information as easily as a hearing man would.

In the rubber industry, training, experience and education enter the problem only in the most general way. It is the physical equipment which is important. This does not mean that intelligence is unimportant. Quite the contrary. Nevertheless it is possible to train most men for the job if they have suitable physical equipment. This is true of employment in all, or nearly all, of the mass production industries. We are not dealing with isolated phenomenon in this detail.

Too many of the deaf applicants are languid, cigarette sucking, hollow-chested youths whom one would not trust to rake the leaves in the front yard. A layman cannot help but feel that there is scant excuse for boarding schools such as we have in every state to turn out such an inferior product in a physical way. Thorough attention to physical education is easily possible under the circumstances and it would help to clear up a surprising amount of unemployment.

There is a young man in the writer's own experience who came to Akron while times were still quite bad and landed jobs with four different employers within the space of a year. Most of the jobs were temporary fill-ins, but they did help the boy to pay his way and even send home a few dollars.

As far as deafness is concerned this young man is no less deaf than half a dozen other young fellows about town who have not had a job for years. His education differed from theirs in no detail worthy of our consideration. But he was an upstanding young man, well muscled and alert. When one looked at him there was no difficulty whatever of conjuring up a picture of his doing valiant deeds with a pick and a shovel, or of giving alert attention to the more exacting requirements of machine operation.

He got the jobs.

The part that his physical equipment played in his relative success is obvious. Must we hold then that his vocational training in school was a total loss? The writer does not believe that any such conclusion is justified.

The main trouble of the employment manager is to find deaf applicants with the craftsmanship to handle a responsible piecework operation. This quality is even more rare than the right kind of physical equipment. It is not exactly the craftsmanship of the carpenter, the toolmaker, or the printer. It is the craftsmanship of all of them rolled into one—craftsmanship in the abstract, as it were. It implies familiarity and skill in the use of tools and machinery in general. More particularly, it demands established standards of workmanship and the ability to take hold and push through an assignment without too much waste motion.

A friend of the writer who is more familiar with conditions in the state schools is firmly convinced that standards of workmanship are the last things that a boy would be likely to get from his vocational training in these schools. Whenever there is an exacting piece of work to be done in the school's workshops, the instructor invariably does it himself, so he relates.

Regardless of the justification which must be accorded this criticism, it certainly is true that we have as much right to expect the schools to produce standards of workmanship as we have to look to them to turn out graduates with the physical equipment to hold down jobs. Here are primary objectives of the first importance which may have had less than their due share of attention in the years that the success of all educational endeavor was being measured by the language yardstick.

It is not the purpose of this paper to give the impression that there are five easy steps to employment—or ten steps or fifty, for that matter. The writer cannot claim that employers are actively in the market for deaf workers, even when they are perfectly equipped. Looking at it in the most favorable light possible, we must conclude that deafness is a deviation from normal which, if not actually fatal itself, surely will serve to multiply the consequences of a second or a third fault.

In effect, the deaf applicant marches up to his turn at bat in the employment office with one strike already called against him.

If he can show that he is competent, willing and alert, he may convince the employer that he should not be disqualified by reason of the one strike when certain jobs are to be filled. But there is only one way by which that strike can be canceled out. That is by means of a resounding hit when he gets a chance to show what he can do on the job in the factory.

What we do want is to try to make sure that the umpire in the employment office never gets a chance to call a second strike, or a third.

The Deaf and Provision for Their Education in Palestine

By RICHARD HÖXTER

Jerusalem, Palestine

THE EDUCATION of the deaf in Palestine is comparatively still young. In a statistical study by E. Mills, assistant director of the census, in the year 1931, the following statement was made regarding deaf-mutism in Palestine:

"The number of deaf persons per hundred thousand in Palestine is 159 of both sexes, the proportion of males being 167 and of females 151 per 100,000 of the respective sexes."

Out of every 100,000 persons 52 males and 35 females were born deaf. These numbers are—as the author himself asserts—not accurate. In this enumeration it is true a distinction was made between deafness and deaf-mutism, but not so definitely as to exclude in the last analysis the possibility of error. In other words, actual deaf-mutism and progressive deafness were not definitely separated.

"The sub-districts Jerusalem and Bethlehem must be excluded from the tests, because it is in these places that deaf-mutes have the greater opportunity for economic support through charitable agencies; and because in the case of Jerusalem and other large towns they may have hope either of treatment or of training in the language of lip motions."

Generally, parents do not admit deafness in their children before the tenth year of age, in the belief that it is only a case of retarded development. The compiler of the census himself states:

"The problem of deaf-mutism in Palestine is certainly not more serious than in other countries even though there are grounds for supposing that the number of deaf-mutes exceeds the number yielded by the census."

In the footnote to his chapter on "Deaf-Mutism" in the same census, Dr. Salzberger makes a logical and clear presentation of the matter when he says:

"It is not surprising that fewer deaf people are found in Palestine among Jews than among others, because we are here dealing with an immigrant population which is of an

age at which deafness is not marked. Moreover, the fact has to be taken into consideration that in the selection of Jews for immigration into Palestine a certain health control is exercised by Palestine Jewish Immigration offices in other countries. It is therefore not surprising that Jews, who elsewhere usually contribute the highest percentage of deaf persons, should in Palestine be in a better position than in others."

There are in Palestine three establishments providing for the education of the deaf. All three are located in Jerusalem—

1. A French convent school, St. Vincent.
2. An English missionary school.
3. A Jewish school for the deaf.

In the convent school, deaf, blind and crippled children are under the care and instruction of French nuns. The number of deaf children and the method of instruction are unknown to the writer of this paper, as no visitors are admitted to this convent school.

The English mission school, under the direction of Miss Mary F. Chapman was founded in the year 1931. Until now it has had but few pupils, mostly native Arab children, who receive their instruction in the English language from the directress in a small congenially arranged dwelling house. The school has a homelike atmosphere; the lovable directress cares for her small charges with affection and devotion. She has taught the deaf for thirty years in many lands. One of her former pupils from Burma instructs the children in manual training and drawing. With the younger children the method of instruction depends mainly upon observational activity, seeking to direct attention to training in lip-reading. Speech instruction is carried on by the single-sound method. The school should grow in the near future.

The Jewish school for the deaf, which has the major part in the education of the deaf in Palestine, was called into being mainly by the efforts of the otologist, Dr. Marcus Salzberger, who soon after his settling in Palestine (1923) conceived the plan to establish such a school. As funds were necessary for such an undertaking, the carrying out of the

plan took several years. He found in Miss Jessie Samter of Rechowoth, near Tel-Aviv, a valuable aid who succeeded in procuring some funds from America. To manage the school they found an instructor who professed to have had training in Poland to teach the deaf. Under these auspices there was opened in 1930 in Tel-Aviv the first Jewish school for the deaf in Palestine, an enterprise which lasted for two years.

In the year 1929 there died in Shanghai one Leone A. Levy, who at the age of thirty had become deaf. He left his fortune to the Alliance Israélite Universelle with the request that a school for the deaf be established in a Jewish center. Dr. Salzberger went to Paris and prevailed upon Professor Sylvain Levy, the then president of the Alliance, to found the school in Jerusalem under the direction of a specialist in the education of the deaf from Germany, the present director. It was opened in November 1932 with two pupils. At the close of the first year the school already had an enrollment of 16 pupils (9 boys and 7 girls). It now has three classes with 25 pupils who are taught in the Hebrew language by the director, and two women qualified with diplomas to teach the deaf. It is not a residential school. The children from homes outside of Jerusalem are cared for in private families. The girls are under the supervision of a kindergartner who had six years of active experience in the Jewish School for the Deaf at Berlin-Weissensee and who is well versed in the education of the deaf, including the teaching of speech. A kindergarten for preschool deaf children above the age of three is also provided for by the same arrangement.

The pupils of the Jewish school for the deaf come from all parts of the land, the majority of them from Tel-Aviv and Jerusalem. The children of foreign residents are also accepted. The aim of the school is the acquisition of articulate speech by the children. To reach this goal every device of modern methods of instructing the deaf is employed. This speech work is begun with the entire word (globally), not with the individual sound or syllable. As this is the first time Hebrew is being learned by deaf chil-

dren as a living language, special speech charts that show the development of the language on a phonetic basis had to be prepared. In December 1932 appeared the first primer for the deaf in the Hebrew language.

The school period is set at eight years. In the upper classes of the last two years English also is to be learned. The children have a large garden area in the school in which they receive training in vegetable gardening. The mid-day meal is prepared at the school under the direction of an instructor in housekeeping who at the same time teaches domestic science to the children. In October, 1936, a workshop for instruction in the manual crafts was to be opened, furnished by funds donated by Mr. Simon A. Levy, the brother of the original founder of the school.

Lately, concentrated effort in auricular work has indicated that all of the pupils may benefit by this sort of training. This includes children deaf from birth and those reported as totally deaf. Even the kindergarten class is given the training in residual hearing. The staff of the school reports most encouraging results.

In the first year of the school's existence the following special courses of study were established in addition to that of the regular day-school for deaf children:

1. A course for the adult deaf.
2. A course for speech defectives.
3. A course of training for teachers—(the first instructor of the deaf in Hebrew took her examination in 1933).

Each year a pageant is given in celebration of the Purim festival. The last such occasion, held February 27, 1936, was arranged in honor of Henriette Szold, most eminent Jewish woman in the field of social work and the founder of the Hadassah movement. The children presented "The story of Joseph," according to the biblical text. The performance was attended by almost every prominent person in the city.

As the school unfortunately does not have at its disposal an over-sufficient supply of funds, it is compelled to turn down many applications for admission, both native and foreign.

There are in Palestine fully some 50 Jewish deaf children capable of schooling, 15 of preschool age, and 80 adult deaf persons of whom 25 were educated in Europe or America. Two years ago they organized a society, and its members speak German, French, English, Hungarian or Russian, namely the language of the land in which they were educated. Only one deaf person born in Palestine speaks German as well as Hebrew; in his case he lost his hearing at the age of ten and attended the school for Jewish deaf children in Germany.

It may be of interest also to give here a summary of the incidence of deafness in children of the Jewish School for the Deaf in Jerusalem. Among the 25 enrolled and 10 registered children were:

Incidence of Deafness	*Boys*	*Girls*	*Total*
(a) Cases of consanguinity	6	4	10
(b) Cases of deafness through hereditary transmission (in which a related member of the family is deaf or has a speech defect)	5	5	10
(c) Cases of first-born children	2	3	5
(d) Cases of the only-child	1	2	3
(e) Cases of adventitious deafness (mainly from meningitis)	2	5	7
Total	16	19	35

How great the number of Arabian deaf-mutes is, is very difficult to determine; a conservative estimate would place it at least double that of the Jewish deaf. How difficult it is to convince the natives of the value of education for the deaf may be seen from the following observation. Some of them say, he whom the Deity made mute shall remain so; the others can not believe it is possible to make mutes to speak, and they therefore evince no interest in having the contrary proved to them. Brand markings may be seen on the bodies of many of these children; they have been thus marked in the belief they would then speak.

The Social Competence of Deaf Children

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INTRODUCTION

PROBLEMS of immediate and practical importance confront parents, educators, institutional administrators, employers, and social guardians of the deaf, and the solution of these problems is of critical significance. What is the degree of personal *independence* or *social competence* of deaf individuals as compared with hearing individuals? Will the deaf child be retarded in learning to dress and feed himself? Is the deaf child as responsible with money and in making purchases as the hearing child? Are deaf adults as dependable in occupations as hearing adults? Does deafness interfere with social co-operation? Consideration of isolated cases suggests that answers to these questions may be either positive or negative. Many deaf men and women have become famous in their professions and careers. Apparently, then, deafness *per se* does not preclude success. However, it is obvious that deafness is at least a *handicap* to social achievement.

Statistical evaluation of the extent to which deafness handicaps social competence requires the availability of a measuring device calibrated for hearing individuals by means of which we can measure the social competence of large numbers of deaf individuals. Such an instrument should be scientifically accurate within known limits of error; it should be applicable to all ages; it should be independent of the influences of minor environmental variations; it should be relatively easy to administer and to score. Such an instrument is available in the Vineland Social Maturity Scale.[2]

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[1] The author wishes to acknowledge the generous co-operation of Superintendent Alvin E. Pope of the New Jersey School for the Deaf, and also that of the many persons at the school, which made the collection of data for the present study possible. The author also wishes to express her indebtedness to Dr. Edgar A. Doll, director of the Vineland Department of Research, for the study as a whole.

[2] Doll, E. A. "The Vineland Social Maturity Scale: Revised Condensed Manual of Directions," Publication of the Training School at Vineland, New Jersey, Department of Research, Series 1936, No. 3. April, 1936, pp. 30.

This scale is composed of 117 behavioral items arranged in order of progressive difficulty from birth to superior adult ages. The items deal with successive degrees of independence in such socially significant performances as dressing, feeding, bathing, communication, locomotion, occupation, and social co-operation. The organization of the scale is patterned after the Binet Scale for measuring intelligence. However, it is administered by interviewing someone intimately familiar with the subject rather than by examining the subject directly. Examination of a subject *in absentia* is a particularly valuable feature when testing individuals who are verbally handicapped as the deaf are. On the basis of information obtained the subject is scored on each item according to his independence in the stated performances. It is not necessary to indicate the score for each of the 117 items. A basal range of continuous pluses and an upper range of continuous minuses are obtained, and the items below and above these levels are assumed as plus and minus as in the administration of the Binet Scale. The scale requires about twenty minutes to administer, and the total score is readily converted to a social age (SA) by referring to the age level corresponding to this score on the blank itself. A social quotient (SQ) is derived by dividing the social age by the life age (LA) up to 25 years; after age 25.0, the divisor is 25 regardless of age.

The scale was standardized on 620 subjects between the ages of 1 month and 31 years. By employing the Thomson[3] method it was possible to calculate the average age value for each item of the scale. The report of the standardization together with studies of the reliability and validity of the scale has been offered elsewhere.[4] The reliability is high as indicated by a correlation coefficient of $r = .92$ for test-retest reliability on 123 mentally deficient subjects ranging in social ages from 1 to 13 years. Re-examination of 15 indi-

[3] Thomson, G. H., "A Note on Scaling Tests," *Journal of Educational Psychology*, 1926, 17, pp. 550-552.

[4] Doll, E. A., "Preliminary Standardization of the Vineland Social Maturity Scale," *American Journal of Orthopsychiatry*, 1936, 6, pp. 283-293.

viduals by the same examiner using from 2 to 6 different informants for an individual showed a mean average deviation for obtained social quotients of 2.2. The SA's and SQ's are on the whole statistically comparable to Binet MA's and IQ's. Since the variabilities on the two scales are approximately the same, scores on the two tests may be compared directly without the need of converting them both to deviation scores.

Problem

To determine the practicability of using the scale as an investigation instrument for the deaf, we proposed to administer it to a selected group of pupils attending the New Jersey School for the Deaf at West Trenton, New Jersey. This school has about 367 resident pupils who go home only for vacations and on occasional week-ends.

The choice of subjects presented some difficulties because of the many selective factors which required consideration. A basic factor is that of degree of deafness. There are all degrees of hearing impairment from inability to receive any auditory sensation to a slight difficulty in hearing. Indication of the per cent loss of hearing is a common means of differentiating the various degrees of hearing impairment, although it is recognized by those who work with the deaf that this is not an entirely satisfactory method since there is not complete correlation between per cent loss of hearing and degree of ability to comprehend and use oral speech.

Another factor is that of age at which hearing was lost. Educators of the deaf tell us that if a child loses his hearing after the age of five, he usually has some "natural speech," and it is apparently much less difficult to educate him than if he has none. Consequently the age at which one loses his hearing might conceivably affect the degree of social independence at a later stage of development.

A third factor is that of the influence of institutionalization. On the one hand, an institutionalized child may be restrained in certain activities because of the generalized regulations which may be necessary in the care of large groups of resident children. On the other hand, he may be

encouraged and specifically trained to do more things for himself than is the child in the average home. These two opposing influences probably counteract each other to a certain extent, but until they have been more thoroughly studied it is desirable that the length of residence within an institution be considered in a study of the social independence of institutionalized subjects.

Subjects

A total of 92 pupils who had been deaf since birth or shortly thereafter were examined with the Vineland Social Maturity Scale. (See Table 1.) Seven had lost their hearing due to disease during the first year of life; four had lost their hearing due to disease between the ages of one and two; the remaining 81 had been diagnosed as congenitally deaf and had apparently never had average auditory acuity. The hearing loss in the "best ear" for four fifths of these subjects was 70% or more. No child had a hearing loss of less than 35% in the best ear.

The life age range for this group was from five years to twenty-one years with approximately 3 boys and 3 girls at each age level. In some instances this proportion was not maintained because of the limitation of subjects meeting the specified requirements. The mean life age was 12.8.

The parental occupational class as measured by the Minnesota Occupational Scale[5] was from 3 to 6. (One is highest and 6 is lowest occupational class.) The mean occupational class was 4.8.

All of the subjects had been resident at the institution for at least six months.

Analysis of the Social Maturity Scores of the Deaf

Since an analysis of the results for the two sexes showed an absence of sex differences on the scale, which agrees with

[5] Brussel, E. S., "A Revision of the Barr-Taussig Scale of Occupational Intelligence," Master's thesis, University of Minnesota, 1932. For brief description of the Minnesota Occupational Scale, see Bradway, K. P., "Paternal Occupational Intelligence and Mental Deficiency," *Journal of Applied Psychology*, 1935, 19, p. 531.

TABLE 1

CHARACTERISTICS OF NINETY-TWO SUBJECTS WHO BECAME DEAF BEFORE THE AGE OF TWO YEARS

Numerical						*Central Tendencies*					
Age Level	*Males* (*No.*)	*Females* (*No.*)	*Total* (*No.*)	*Age at losing hearing*		*Mean LA*	*Mean SA*	*Mean LA minus Mean SA*	*Mean SQ**	*Mean Est. SA*	*Mean Parental Occupation Class*
				Birth (*No.*)	*Before 2 years* (*No.*)						
5– 6	2	4	6	6		5.7	4.9	.8	87	5.3	4.5
6– 7	2	4	6	6		6.4	4.5	1.9	70	5.6	5.4
7– 8	3	3	6	5	1	7.4	5.9	1.5	80	5.9	5.1
8– 9	2	4	6	5	1	8.4	7.0	1.4	84	6.8	4.1
9–10	3	3	6	6		9.6	8.0	1.6	83	7.8	4.7
10–11	3	3	6	6		10.4	8.6	1.8	81	8.7	4.4
11–12	4	2	6	6		11.5	9.5	2.0	82	9.5	4.5
12–13	2	2	4	4		12.7	10.4	2.3	82	11.4	4.8
13–14	3	3	6	5	1	13.2	11.5	1.7	88	13.3	5.0
14–15	3	2	5	3	2	14.4	10.7	3.7	74	12.5	5.1
15–16	2	4	6	5	1	15.3	11.5	3.8	75	13.9	5.0
16–17	3	3	6	6		16.5	14.7	1.8	89	16.0	4.9
17–18	3	3	6	4	2	17.5	12.5	5.0	71	15.5	4.2
18–19	3	3	6	5	1	18.1	14.4	3.7	79	15.5	5.0
19–20	3	3	6	5	1	19.4	14.6	4.8	76	18.0	4.8
20–21	2	3	5	4	1	20.4	16.4	4.0	80	19.2	5.0
TOTAL NO.	43	49	92	81	11						
TOTAL MEAN						12.8	10.3	2.5	80.7	11.8	4.8
SD						4.6	3.8		11.3	5.0	1.0

* The mean SQ's were computed from the original data.

results found in the standardization of the scale, the data for the sexes were combined. Central tendencies for the separate age levels and for the group as a whole are indicated in Table 1. The mean LA for the total group was 12.8 ± 4.6 (SD), the mean SA was 10.3 ± 3.8, and the mean SQ was 80.7 ± 11.3. In comparison with norms for hearing subjects a definite retardation in social competence is noted. The amount of retardation at each year level is indicated in the ninth column of Table 1. This was from .8 years to 2.3 years for each age group up to and including the 13- to 14-year group. After this age retardation was irregular in amount and is difficult to analyze.

Some indication of the validity of this scale when used with deaf subjects was found in the relation between estimates of SA as given by the attendant informing about the child, (see Column 11 in Table 1) and the SA's obtained with the scale. The correlation coefficient was $r = .89 \pm .01$. However, there was a constant tendency for the estimated SA's to run higher than the obtained SA's except from 6 to 9 years, where they approximated each other. The range of the obtained SA's was from 4 to 18 years, while that of the estimated SA's was from 5 to 23 years. The mean of the obtained SA's for all ages was 10.3, while the mean of the estimated SA's was 11.8. The mean LA for this group was 12.8. The mean estimated SA appeared to agree more closely with LA than it did with obtained SA.

It is noted in Column 10 of Table 1 that the mean SQ for the deaf varies from 70 to 89 with no consistent trend in relation to age. In other words, the relative degree of retardation is similar for all ages. The mean SQ is 80.7 with a standard deviation of 11.3 which indicates that approximately 67% of the subjects obtained SQ's between 69 and 92. The normal standardization data showed a standard deviation of 12 points in SQ for the total 620 cases examined, indicating that approximately 67% of this group obtained SQ's between 88 and 112 (since 100 was the average normal SQ obtained). We note from these results that the SQ's of the middle 67% of the deaf group overlap the SQ's of the middle 67% of the standardization group (which is considered repre-

sentative of hearing individuals) by only four points, and that the mean SQ for the deaf is about 1.6 SD below the mean SQ for the hearing. These results indicate a significant differentiation of the two groups.

The difference cannot be explained by inferiority in social status of the deaf group to the hearing group. The mean parental occupational class of the former group was 4.8 (1 is high and 6 is low), and that of the latter group 4.2. Analysis of relation between social status and SQ on the basis of the normal standardization data has shown a negligible relation when comparing occupational classes 4 and 5.

It is of more than passing significance that a retardation of twenty points in the average SQ is maintained throughout the age levels with little variation in amount. It indicates that development of social competence proceeds at a constant rate for the deaf as for the hearing, but this rate is, on the average, 20% less than that of the average hearing individual. Since we have no evidence to the contrary, we may assume that the deaf children examined for this study were average in potential intelligence, and we thus conclude that deafness handicaps a person's social competence by about twenty per cent. If we are justified in this conclusion, it would appear then that in order for a deaf individual to be averaged in social competence, that is to have an SQ of 100, he must be endowed with a superior intellectual capacity represented by a potential IQ of about 125.

Not all the deaf subjects examined were retarded in social competence. Two subjects, despite their deafness, obtained SQ's that were greater than 100. It may be of interest to isolate these two superior subjects from the rest of the group and study them more closely.

Mary is 5.6 years old, of a middle class family, and has been at the school six months. She apparently has had defective hearing since birth, and her deafness has been diagnosed as congenital. The per cent hearing loss in the left ear is 75 and in the right ear is 70. She passed all of the items on the Social Maturity Scale up to the 5- to 6-year level. At this year level she received full credit for "Uses skates, sled, and

wagon," and "Prints simple words." She received a "+ no opportunity" on "Goes to school unattended," since there was evidence that she could successfully fulfill the requirements of this item had it not been for the institutional situation. At the 6- to 7-year level she passed "Uses table knife for spreading," and "Bathes self assisted," and failed the other two items at this level. Her resulting social age was 5.9 years which gave her a social quotient of 105. The scatter of her successes and failures was not unusual for a deaf child, but the total picture is more like that of the average 7- to 8-year deaf child than the 5- to 6-year one. Her success on "Prints simple words" might seem to be unusual. However, contrary to expectation, deaf children are less handicapped on this item than on most other items. (See Table 3, which will be discussed later.) "Plays simple table games," and "Is trusted with money" are relatively very difficult for deaf subjects. The part which hearing may play in these latter performances is obvious.

The other subject who achieved a superior SQ was Douglas, a boy 13.0 years old, who has been at the institution nearly 9 years. His father is employed at common labor, which represents Class 6 in terms of occupation. At 1 year of age Douglas contracted measles, and it was after recovery from this illness that his defective hearing was noticed (according to parents' report). Loss of hearing in both the right and left ears is 85%. He passed all the social maturity items up to the 12- to 15-year level except "Makes telephone calls," at the 10-year level which is failed, of course, by all deaf subjects. At the 12- to 15-year level he passed "Plays difficult games," "Exercises complete care of dress," "Engages in adolescent group activity," and "Performs responsible routine chores." He failed "Buys own clothing accessories." He has limited opportunity to buy his accessories, but other evidence indicated that he would be incapable of performing this item satisfactorily even if encouraged to do it. He passed the first item at the 15- to 18-year level, "Communicates by letters," and failed the remaining items of the scale. The resulting social age was 14.1 years which yielded a

TABLE 2*

COMPARISON OF ITEM AGE VALUES FOR DEAF AND HEARING SUBJECTS

Item. No.	*Deaf Age*	*Hearing Age*	*Hearing SD*	*Deaf minus Hearing Age*	*Diff. SD for Hearing*
		IV-V†			
51. Cares for self at toilet....	4	3.8	1.2	...	...
52. Washes face unassisted....	5	4.7	1.5	...	...
53. Goes about neighborhood unattended	6 to 7	4.8	1.2	2	2
54. Dresses self except tying..	5 to 6	4.8	1.3	1	1
55. Uses pencil or crayon for drawing	4	5.1	.9	—1	—1
56. Plays competitive exercise games	5–	5.2	.9	...	...
		V-VI			
57. Uses skates, sled, wagon ..	5–	5.2	1.6	...	...
58. Prints simple words.....	5 to 6	5.2	.8	...	...
59. Plays simple table games.	7.8	5.6	1.0	2.2	2.2
60. Is trusted with money....	9.0	5.8	1.1	3.2	2.9
61. Goes to school unattended	9.0	5.8	1.0	3.2	3.2
		VI-VII			
62. Uses table knife for spreading	5	6.0	2.2	—1	0 to —.5
63. Uses pencil for writing...	8.6	6.2	.8	2.4	3.0
64. Bathes self assisted.....	6.2	6.2	1.3	...	...
65. Goes to bed unassisted...	9.3	6.8	1.9	2.5	1.3
		VII-VIII			
66. Tells time to quarter hour	10.9	7.3	1.3	3.6	2.8
67. Uses table knife for cutting	7.9	8.1	2.0	—.2	—.1
68. Disavows literal Santa Claus	11.0	8.3	1.8	2.7	1.5
69. Participates in pre-adolescent play	9.3	8.3	1.6	1.0	.6
70. Combs or brushes hair....	9.8	8.4	1.5	1.4	.9
		VIII-IX			
71. Uses tools or utensils.....	9.5	8.5	1.8	1.0	.6
72. Does routine household tasks	11.0	8.5	2.0	2.5	1.3
73. Reads on own initiative..	11.8	8.5	1.5	3.3	2.2
74. Bathes self unaided.....	9.7	8.8	1.7	.9	.5
		IX-X			
75. Cares for self at table....	9.1	9.0	1.6	.1	.1
76. Makes minor purchases...	13.8	9.4	1.3	4.4	3.4
77. Goes about home town freely	13.6	9.5	1.7	4.1	2.4

Item. No.	*Deaf Age*	*Hearing Age*	*Hearing SD*	*Deaf minus Hearing age*	*Diff. SD for Hearing*
		X-XI			
78. Writes occasional short letters	13.6	9.6	1.6	4.0	2.5
79. Makes telephone calls	...	10.3	2.1	...	...
80. Does small remunerative work	15.8	10.9	2.4	4.9	2.0
81. Answers ads; purchases by mail	14	11.2	3.2	3	1
		XI-XII			
82. Does simple creative work	15	11.2	3.3	4	1 to 2
83. Is left to care for self or others	15.2	11.5	2.7	3.7	1.4
84. Enjoys books, newspapers, magazines	16	11.6	1.6	4 to 5	3
		XII-XV			
85. Plays difficult games	15.2	12.3	2.8	2.9	1.0
86. Exercises complete care of dress	11.8	12.4	2.0	—.6	—.3
87. Buys own clothing accessories	17	13.0	2.6	4	1 to 2
88. Engages in adolescent group activities	16	14.1	2.5	2	0 to 1
89. Performs responsible routine chores	16	14.7	2.3	1	0 to .5
90. Communicates by letters	16	14.9	2.6	1	0 to .5
91. Follows current events	20	15.4	3.0	4 to 5	1 to 2
92. Goes to nearby places alone	16.9	15.8	2.2	1.1	2.0
93. Goes out unsupervised daytime	20	16.1	2.0	4	2
94. Has own spending money	20	16.5	1.9	3 to 4	1.5 to 2

* Numbers in columns 1, 4 and 5 which are not carried to the first decimal place or which are given in terms of limits represent approximations where item curves were not complete.

† Roman numerals indicate age level of items.

social quotient of 108. In this case also the scattering of successes and failures was not unusual for deaf subjects, but was typical of deaf boys 17 to 18 years of age rather than those 13 years old.

The contrast of the factors in these two superior cases is significant. One is in the lower reaches of the scale, the other in the upper half; one is a girl, the other a boy; the father

of one is employed in a middle class occupation, the father of the other is in the lowest occupational class; one was deaf from birth, the other became deaf at 1 year. These differences indicate that superiority may be expressed in spite of deafness under diverse conditions. The possible level which these subjects would have achieved had they retained their hearing is not predictable, from data at hand, but according to the argument presented on page 118 we might estimate that their developmental levels would have been represented by SQ's greater than 125.

Analysis of Items

Do the lower social maturity scores of the deaf represent a general handicap or are they the result of the inclusion in the scale of several items which are very difficult or impossible for the deaf to pass because of hearing inability as such? If the latter is true, the scale might receive criticism for putting too much of a premium on hearing. In order to study this problem an analysis of success on the items was made.

First the per cent of each age group of the deaf subjects passing each item was computed. From these per cents the average age of passing each item was calculated by the Thomson method, which was used in the normal standardization. Items below item 51 and above item 94 did not show complete enough "curves of acquisition" to permit either a calculation or an approximation of an average age by this method and so were not included in the present analysis. Average ages for the 92 deaf pupils are presented in Table 2. This table also shows the average age of passing found for the hearing subjects used in the standardization, the standard deviation of passing for the hearing, the difference between the average age of passing for the deaf and that for the hearing, and the ratio of this difference to the standard deviation for the hearing. The larger this "differential ratio," the more significant is the difference between deaf and hearing subjects.

The material in Table 2 has been reassembled into Table 3 in order to group those items together whose differential

ratios are comparable. It will be noted that there are 6 items whose ratios are negative, indicating that deaf subjects passed these items at an earlier age than do hearing subjects. Three of these six items are items of self-help. In the remaining 38 items, the deaf children were inferior. Some of the items in which the deaf were inferior appear to put a premium on hearing, and therefore we might expect that the deaf would be handicapped. However, for the majority of items there is no evident reason why the deaf should be handicapped. They were inferior, for example, in such things as dressing self except tying, going to bed unassisted, doing creative work. These performances do not appear to depend directly upon hearing or related abilities, and yet the differential ratios for these three items were between 1.0 and 2.0 indicating that only about 50% of the deaf subjects passed at the age at which over 85% of the hearing subjects pass.

The items having more significant differential ratios, that is over 2.0, bear more evident relation to hearing, speech, reading, and writing, but in some cases the relation is rather obscure. Moreover, some deaf subjects passed each of these items, which shows that deafness by itself is not a bar to social competence but merely delays its development. The only item which no deaf child passed is "Makes telephone calls." The deaf individual is obviously incapable of this performance.

These data indicate that the social retardation of the deaf is apparent in the greater part of their social behavior and is not limited to a few specific performances. If the social competence were due to the specific handicap of deafness as such, we would expect to find that the deaf were seriously retarded in items dependent upon hearing and speech, and were not retarded in other items. Contrary to this expectation, we find that the deaf are retarded in all but 5 of 44 items, or in 89% of the items, and that the retardation is of all degrees.

For the measurement of social competence we are not justified in modifying the scale when applying it to the deaf. If we desire to measure the social independence of a deaf individual in the world at large, it is necessary to measure

TABLE 3

DISTRIBUTION OF SOCIAL MATURITY ITEMS IN GROUPS ACCORDING TO DIRECTION AND SIZE OF DIFFERENTIAL RATIO

*Categories**	*Items*
	Items whose differential ratios are between 0 and —1.0
O	Uses pencil or crayon for drawing
S	Plays competitive exercise games
O	Uses skates, sled, wagon
SHE	Uses table knife for spreading
SHE	Uses table knife for cutting
SHD	Exercises complete care of dress
	Items whose differential ratios are between 0 and +1.0
SHG	Cares for self at toilet
SHD	Washes face unassisted
C	Prints simple words
SHD	Bathes self assisted
S	Participates in pre-adolescent play
SHD	Combs or brushes hair
O	Uses tools or utensils
SHD	Bathes self unaided
SHE	Cares for self at table
S	Engages in adolescent group activities
O	Performs responsible routine chores
C	Communicates by letters
	Items whose differential ratios are between 1.0 and 2.0
SHD	Dresses self except tying
SHD	Goes to bed unassisted
S	Disavows literal Santa Claus
O	Does routine household tasks
C	Answers ads; purchases by mail
O	Does simple creative work
SD	Is left to care for self or others
S	Plays difficult games
SD	Buys own clothing accessories
C	Follows current events
SD	Has own spending money
	Items whose differential ratios are between 2.0 and 3.0
L	Goes about neighborhood unattended
S	Plays simple table games
SD	Is trusted with money
SHG	Tells time to quarter hour
C	Reads on own initiative
L	Goes about home town freely
C	Writes occasional short letters
O	Does small remunerative work
L	Goes to nearby places alone
SD	Goes out unsupervised daytime

*Categories**	*Items*
	Items whose differential ratios are between 3.0 and 4.0
L	Goes to school unattended
C	Uses pencil for writing
SD	Makes minor purchases
C	Enjoys books, newspapers, magazines
	Item which no deaf children pass
C	Makes telephone calls

* Key to categorical classification of items
SHG—self-help general
SHE—self-help eating
SHD—self-help dressing
S —socialization
O —occupation
C —communication
L —locomotion

it with the same standards which we use for his hearing companions. The deaf child is and always will be, for our purposes, in social competition with the hearing child. If deafness is an intrinsic handicap to social competence, it would be erroneous to take exception to or overlook performances which are handicapped. In fact, it is desirable that we reveal and study the expression of the handicap rather than ignore it.

This argument indicates a significant difference between an intelligence test and a social competence test, and suggests why the former may be unsuccessful and the latter successful. A test of intelligence is designed to measure innate intelligence and it is consequently necessary that it be relatively insensitive to sensory or physical limitations to the expression of intelligence. A test of social competence, on the other hand, is designed to measure performance rather than capacity and thus it may freely reflect limitations to expression.

Influence of Age at Which Hearing Is Lost

In this study we made no attempt to compare deaf children within an institution with those outside, or to study the degree of social competence in relation to length of residence within an institution. Neither have we studied the degree of deafness in relation to the degree of handicap.

TABLE 4

CHARACTERISTICS OF ELEVEN SUBJECTS WHO BECAME DEAF AFTER THE AGE OF SIX YEARS

Numerical			*Central Tendencies*					
Age Level	*Males (No.)*	*Females (No.)*	*Mean LA*	*Mean SA*	*Mean LA minus Mean SA*	*Mean SQ*	*Mean Est. SA*	*Mean Parental Occupat. Class*
12–13	2	1	12.6	12.0	.6	95	14.0	4.7
13–14	2		13.3	10.8	2.5	81	13.0	4.5
14–15	2		14.2	13.0	1.2	92	14.5	4.5
15–16	1		15.4	9.5	5.9	62	12.0	4.0
16–17	2		16.7	14.3	2.4	86	16.8	4.0
17–18								
18–19	1		18.7	12.6	6.1	67	17.0	5.0
TOTAL NO.	10	1						
TOTAL MEAN			14.6	12.2	2.4	84.6	14.5	4.5
SD			1.9	2.2		17.1	2.3	.5

Such studies would be of value in understanding the relation between social competence and deafness. However, an attempt was made to study the relation between age at loss of hearing and degree of social handicap.

The subjects in the group we have previously described and which were the basis for the study so far reported were deaf from birth or within two years after birth. (See Table 1.) This group will henceforth be referred to as group A. In order to study the relation between age at loss of hearing and degree of handicap, a second group, group B, with which group A could be compared, was examined.

Group B (see Table 4) consisted of 11 pupils who had lost their hearing subsequent to the age of 5 years. One pupil had lost his hearing at 5 years, four at 6 years, three at 7 years, two at 8 years, and one at 10 years. All of these subjects had hearing losses of 50% or more in the best ear. All but one were males. Life ages ranged from 12 through 18 years, with a mean life age of 14.6 years. Parental occupational classes were limited to 4 and 5; the mean occupational class was 4.5.

A comparison of the two groups showed very little difference in relative degree of social competence. The mean LA for group A was 12.8, mean SA 10.3, mean SQ 80.7, mean parental occupational class 4.8. Corresponding means for group B were LA 14.6, SA 12.2, SQ 84.6, occupational class 4.5. The mean occupational classes were comparable. For both groups the mean SA was approximately 2.5 years inferior to mean LA. The mean SQ for group A was 3.9 points less than the mean SQ for group B. The standard error of this difference was 5.31 which yielded a critical ratio of .73. This critical ratio indicates an absence of a statistically significant difference between the two groups in relative social competence.

Group B showed much greater variability in social quotients than group A. The former had a standard deviation of 17.1 as compared with 11.3 for the latter. This difference suggests that deafness acquired after age 5 years is more variable in the extent to which it handicaps a person than is

deafness acquired before age 2 years. There are 2 subjects in group A and 3 in group B with SQ's over 100. The resulting per cent of SQ's over 100 is 2 per cent for group A as against 27 per cent for group B. This difference is difficult to evaluate in view of the number of cases and suggests need for further research.

Summary

1. This study was undertaken to determine the feasibility of using the Vineland Social Maturity Scale as an investigational instrument for the study of deaf individuals.

2. The scale was administered to a group of 92 subjects (ages 5 to 20) who had lost their hearing before 2 years of age.

3. No sex differences were found for the deaf group.

4. The deaf group was 20 per cent inferior to hearing subjects in social competence throughout all age levels examined. This held true when occupational class of parents was allowed for.

5. Item analysis revealed that all but one of the items up to and including item 94 could be passed by the deaf at some age level. (The age levels studied did not permit analysis of items beyond item 94.)

6. The deaf were inferior to the hearing in varying degrees on all but 5 of the 44 items studied in spite of the fact that performances on many of the items had no evident dependence upon ability to hear.

7. A second group of subjects, who had lost their hearing after five years of age, was examined and compared with the first group. The age at loss of hearing had no significant effect on social competence when the two groups were compared, but there was a significantly greater variability among those who had lost hearing after five years of age than among those deaf from birth or soon thereafter. In terms of per cent there were 13.5 times as many subjects of the former group who had SQ's above 100 as there were those of the latter group.

Conclusions

The Vineland Social Maturity Scale may be applied successfully to deaf subjects without modification. Its reliability in sorting deaf subjects according to estimated social competence is high. It should be valuable administratively for classifying subjects for cottage placement, occupational assignments, and readiness to go into an unprotected environment.

The scale should be valuable for diagnostic purposes in establishing mental deficiency in the presence of deafness. For such it will be necessary to establish experimentally the critical limits of normality and of mental deficiency for the deaf. The standards that have been established for the hearing do not apply to the deaf for this purpose. If, for example, the average social quotient for the deaf is 80, with a standard deviation of approximately 10, then social quotients of "normal" deaf children may be expected to vary between 70 and 90. A social quotient of 50 would represent the average minus 3 SD and therefore might be taken as the borderline quotient separating the feeble-minded deaf from the dull normal deaf, just as a social quotient of 70 apparently marks the borderline quotient for hearing children. A social quotient of less than 50 would then suggest possible feeble-mindedness in a deaf child. These findings and temporary conclusions will, of course, need to be supported by further data and clinical diagnoses. They are mentioned here merely to indicate the possibilities which the scale may have in clinical work with the deaf.

The use of the scale provides another point of departure for studying deafness and its effects. The scale was used for the present study in an exploratory investigation to suggest a method by which some problems might be attacked. The institutionalized deaf subjects examined for this study showed social retardation. Non-institutionalized deaf individuals may be examined in a similar manner and then compared with the institutionalized subjects. The relation between age at loss of hearing and degree of social handicap

requires further consideration and study. Other problems which might be studied include relation between degree of hearing loss and degree of handicap; development of social competence in congenitally deaf subjects as compared with that in hearing subjects; development, retrospectively, of social competence in deaf individuals who have achieved outstanding success; comparison of social competence of siblings and parents of a deaf subject with the social competence of the subject; comparison of per cent social retardation of deaf subjects with that of blind or crippled subjects.

The variety and number of academic and practical problems which may be studied through the use of the Social Maturity Scale will become obvious to those many persons who are interested in providing a better understanding of deafness and in establishing more adequate methods of caring for and training deaf individuals than has previously been possible.

The Relative Value of Sight and Hearing

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I

There have been frequent attempts to demonstrate that deafness is a greater handicap, not to call it an affliction, than blindness and *vice versa*. It is difficult to find a blind person who would prefer to be deaf, and on the other hand the deaf person, meaning one we generally call a "deaf-mute," does not exist who would exchange positions with one who is blind.

All these comparisons and arguments have centered in the disadvantage either deprivation would hold for the individual. So far none has been made as to the importance of either sight or hearing to animal life as a whole. There has been no attempt to submit even an academic argument as to what would be the effect were there, on the one hand, not a single optic nerve in creation, and on the other not a single auditory nerve, with corresponding absence in every form of life of the brain centers governing one or the other.

H. G. Wells, in his fanciful novelette, *The Country of the Blind,* has a well-thought-out sequence of the various phenomena that would accompany total and universal blindness in an entire community. In the case of the full-sensed intruder, Nunez, sight is described as a handicap rendering its possessor a degraded and undesirable addition, to be regarded with contempt, pity and even aversion. The main complaint against Nunez is that he has too much imagination, and his descriptions of the splendors of the outside world are regarded as the vagaries of a madman. When it is discovered that his affliction seems due to his eyes and mobile lids, lacking among the natives, it is proposed to remove his handicap with a surgical operation that, after cutting out the eyeballs, it was hoped would lift him from a grossly inferior plane to the level of the normal citizen.

The domestic life, the limitations imposed by blindness, the various ingenious means and makeshifts to render it a

minimum of a handicap, the living and routine habits rendered not merely convenient but imperative, are interestingly described. The seeing man, Nunez, is at an acute disadvantage in his blind entourage, and so far from being a help, his vision is a detriment. In a country of the blind, not even a full-visioned man, let alone a one-eyed man, can be king.

The story has one weak point. It must inevitably happen that among the fifteen generations of blind people there must be throw-backs or reversions and every generation must have one or more full-sensed men or women. There can be no blind variety of the human race with blindness transmitted unfailingly from one generation to the other, no more than there can be a deaf variety as once set forth in a memorial to Congress by the late Alexander Graham Bell. The *Pisces Bartimei,* or eyeless fish of the Mammoth Cave, can hardly be cited as evidence; as these creatures live in total and perpetual darkness, their vision, with its organs and nerve, has become gradually until entirely atrophied.

In this connection it may be related that some seventy-five years ago a deaf man by the name of Henry Flournoy proposed a scheme of establishing a colony of deaf-mutes somewhere in Florida, in which the sole medium of communication used in the many social and business affairs of life, domestic and public, should be the sign language, though there was to be instruction in acquiring a command of written English so as to make our literature available, and also to serve, as it does now, for purposes of record, historical, legal and religious. The scheme failed even of actual inception as it was pointed out that the very next generation would consist almost wholly of normally sensed persons. The main opponent of the plan was another brilliant deaf man, Edmund Booth, founder, owner and editor of the Anamosa, Iowa, *Eureka,* a coeval, born 1809, and friend of Lincoln.

Wells makes no attempt to follow the devious thread of what might have been had there been total blindness throughout the animal world and had there been not a single optic nerve with its corresponding brain convolutions in the entire plan of creation.

On the supposition of such a condition there would be

no such phenomenon as light as we understand it in all its multifarious manifestations. The radiation of the stars, the silver torch of the moon, the glow of the sun, the radiance of color of the Aurora with its crackling light, the daily matutinal quenching of the starlight would be all non-existent, incomprehensible without the eye and its appurtenances. Solar heat would be a phenomenon incapable of solution. The appearance of fire would reach the mind through no possible avenue, though its scorching and destructive effects would be painfully evident, as in time its beneficent nature would be manifest in colder latitudes, once means had been devised to control its activities. The service it now renders in manufactures and the useful arts would be approached in very small degree.

The thunderclap might be heard but the causative agency, the lightning bolt would remain unknown unless it should smite some nearby object, and thus thunder would become regarded as some terrifyingly destructive agency and very likely as the voice of wrathfully incensed gods.

There would be no celestial firmament, and with it no stars. The flight of meteors would pass unheeded, comets would be unknown with the portents seeing humanity attached to their appearance. There could be no moon, no sun. The whole universe would be circumscribed, compressed, and limitless space would be an impossible conception. Its height would be limited to that of a tall tree that some one more adventurous than the rest might climb, or in a mountain country by perilous ascents often made at the sacrifice of many lives, a trail or path being ultimately made safe and familiar by the toilsome erection of ramparts of stone or ropes of skins and fibre.

Probably a primitive community would have its boundaries designated by the distances at which some great gong or war drum might be heard. In warfare, supposing human nature unhappily to be as it is now, spears, swords and clubs, in the inevitable hand to hand conflict, would be the main weapons, and the artillery would consist of hand-hurled rocks and boulders. In the forest regions and alluvial districts, protective walls and stockades of earth and tree trunks

would be erected and in mountain reaches, passes and approaches would be blocked by ramparts built of huge boulders set in place by many hands and guarded by sentries with supersensitive ears and nostrils.

There would be no conception of color. Vegetable life, would be as gorgeous and many-hued as now, but the most beautiful flower would be the one that best pleased the olfactories, and the rose would still be queen. Animal life would probably take on a drab mouse-gray hue, and among humans the most seductive and melodious voice rather than the human face divine would determine the choice of lovers. Music, vocal and instrumental, would be developed to a higher plane than now, as without painting and its color scheme, and in a large measure, sculpture, to claim their share in artistic activities, music would be the undisputed medium of expression. But for all that there would be no Homers, no Miltons for while these sang for the ear, they painted for the eye with their word pictures. It would be interesting to attempt to conjecture the form, substance and subject of a blind epic for a blind world.

Some blind Cadmus, some genius, would in time stumble on some sort of raised dot-and-dash alphabet such as the Braille or New York Point systems now used in schools for the blind, and thus there would be means of permanent record.

All agencies influencing the olfactory organs would have their place in the scheme of life, as would those influencing the tactile sense. Rain and windstorms might be sensed through these avenues far in advance of their actual coming, but the barometer and the meteorological development we have now would be absent. After many ages electricity would reach a high development after eons of experimentation with sensitive fingers, and telegraphic and telephonic communication and possibly the phonograph and and radio would be evolved, but only after infinitely longer and slower processes than those by which our present equipment was perfected.

But the moving picture would remain forever unknown, as would the telescope and microscope and any of our pres-

ent devices for extending and enlarging the field of vision. With the absence of the microscope bacterial research would be impossible. The various contagious and infective diseases, smallpox, scarlet fever, diphtheria, cholera, and the like, would demand enormous toll, and the Black Death would be a visitant to be dreaded to the end of time. Medical science would be limited and without the aid of the many serums and antitoxins that have deprived so many diseases of their terror.

Surgery would be practised in limited scope and very likely some Ambroise Paré would arise to render his service to humanity. Very likely some blind Lister would lead the way to the use of antiseptics.

The great industrial developments of today would be unthinkable. Practically all means of rapid transit would be absent. There would be no railroads, no automobiles, no bicycles and least of all aeroplanes, nor could there be ocean-going vessels. Even the timid creeping off shore of the mariners of the Odyssey and later the more adventurous galleys of the Phoenicians, would afford too hideous a risk. Only the bravest of the brave with the equilibrating fluid in the semicircular canals of the ear extra-abnormally developed would dare to venture off shore in one of the little coracles of sewn and rib-strung hide affected by the early Britons. Roads and highways as we now have them would be unknown, and no blind person would attempt to span the stupendous breadth of a continent by the means at his disposal. Possibly the gentle burro and horses bred to Shetland pony size would be the fastest means of transportation. The catalogue of domestic animals might include such harmless species as sheep, dwarf cattle, goats, and probably dogs and cats.

It is doubtful, if sight being absent, there would be high flying or swift winged birds, and the phenomenon of migration would lead to interesting conjectures on our part. It is doubtful if such far-flung migrations of any species of bird bereft of sight, would be possible unless abnormally acute hearing, olfactory and tactile nerves should reinforce instinct as the guide. To a sightless world such feathered travelers would become known only in case some specimen

should accidentally fall to earth. The whirr of the wings would be heard and the cause ultimately associated with the specimen captured. Songsters might be heard in the trees, and very likely bird carols would far surpass any that we hear. Even the lark might continue its morning paean to the sun, guided by the sense of warmth, lacking that of sight. An occasional accidental captive might lead to the bestowal of a distinguishing name.

It should be understood that the foregoing hypothesis is based on the supposition that the entire animal kingdom in the matter of sight was on the same plane with eyeless man. Otherwise the annihilation of the human race by seeing beasts of prey would be inevitable and rapid.

II

Turning to the supposition of universal deafness, to the entire absence of the auditory organs, nerve and cerebral center, were all mankind and every form of animal life deaf, there would be no such phenomenon as sound. Every manifestation of the various influences that impinge on the normal ear would be non-existent.

But there would be one advantage that in a small measure would relieve the infliction of total deafness. The rumble of the thunder accompanying a lightning flash would be felt, as would be the crash of a falling tree or any heavy object. In addition to the shaking of the earth or floor, the atmospheric concussions would affect the body surface, and thus the totally deaf human would feel if not hear the noise. It is a well-known fact that the deaf like to dance and keep perfect time with orchestral music on condition that one of the instruments is a bass viol, whose vibrations are transmitted along the wooden floor to the feet of the dancers. On a concrete floor such well-timed dancing would not be possible.

Without hearing, speech must disappear. Normal man speaks solely and alone because he has ears that hear. And with speech would disappear the printed page in whatever form we know it with its columns and battalions of informa-

tion. But another and fully as adequate a means of intercourse and communication would be evolved in the shape of a highly cultivated sign language. Vis-a-vis conversation would be as easy and rapid as in a hearing world by speech. Forensic eloquence, instead of thundering on the ear as in the ornate phrases of Demosthenes or Daniel Webster, would assail the eye through the poetry of motion in visographic pantomime, that would leave no doubt in the deaf-mute mind, all humanity being covered by this term, and this deaf-mute mind being fully as responsive to the medium adapted to its comprehension as the ear of the blind is to speech.

Here it should be distinctly understood that the "speech and lip-reading" now taught the deaf in the special schools maintained for them is not the speech that the hearing ear comprehends. For those who have never heard or have become deaf so early in life that they have lost all conception of sound, the movements of the lips constitute an intricate, abnormal, unnatural language of signs, each hearing person addressing such a deaf-mute, by reason of varying habits of lip-movement and mouthing, possessing a dialect, as it were, of his own. The majority of the deaf in our special schools who have thus been taught never master this accomplishment. Many never acquire correct English in its written and printed form simply because it is a medium of expression directed at an organ and sense which they do not possess.

In a deaf world Shakespeare would never have existed as we know him. Nor would Goethe, nor Corneille, nor Dante. Their supremely melodious utterances, each in his own vernacular, would convey no sense or inspiration whatever to the deaf *genus homo*. But, instead, there would be pantomimists as on the stage in the time of the Caesars, when pantomime was so highly developed that not only the actors, but the audience, call it vidience, would be enthralled as at an earlier date were the Greek spectators and patrons at the spoken tragedies of Aeschylus, Sophocles and Euripides. Probably there would be such pantomimic classics that

would be recited in the schools as we do selections from our own classics, the deaf-mute textbook being a fixed and ornate pictograph record.

For there would inevitably be a medium of record and printed communication as well as written, evolved, similar but in course of time vastly surpassing the picture writing of the North American Indian in its first crude form, addressing the eye as unmistakably as the printed sentence addresses our ear. Conversation would probably be by the same sign language now used by the American deaf, and this sign langue being essentially ideographic would have infinitely less variations than is the case with speech, with its multitude of diverse languages, grammars and dialects. The deaf human from Boston would have no difficulty in carrying on a conversation with a native of Bornea or of Kamtchatka. The universally current sign language used by the several Indian tribes may be taken as proof in point.

Civilization in a deaf world would eventually be the same as it is now. Every form of modern convenience with the exception of the telephone and radio, the phonograph and other contrivances depending on the presence of the sense of hearing would come into existence. Medical and surgical science would be as fully developed. Every form of rapid transit by land, water or air would equal or surpass those that we have now. There would be the same knowledge of the universe with its suns, nebulae and comets. The precision of the seasons, of the solstices and equinoxes, of eclipses, solar and lunar, would be as accurately defined. Astronomy would become a favored science and so would chemistry. Alpha Centauri would be found to be four thousand light-years distant, and the stupendous volume of Betelgeuse would be measured.

Though the semaphore would first be used for long distance communication as in fact it was before the advent of the telegraph, even the telegraph would in time be evolved. By a curious fact Morse tinkered with his telegraph in its first form in the hope of inventing some instrument that would alleviate his wife's deafness, and then again Alexander Graham Bell stumbled on the invention of the telephone in

his efforts to construct some medium that would make two deaf children he was instructing hear.

There would be no Mozarts, no Paganinis, no Verdis, no Jenny Linds, no Schumann-Heinks, no Carusos, no musical or operatic genius, one might add no Beethovens, though Beethoven was deaf, but every branch of art except the one of instrumental and operatic music would flourish. There would be deaf Raphael Sanzios, Michael Angelos, Leonardo da Vincis, Phidias, Praxiteles. There would be deaf Faradays and Davys, Wright brothers, Watts and Stephensons. Some deaf Columbus would in time discover America; some deaf Galileo would fashion his telescope; some Fahrenheit his thermometer.

But art in its various forms would flourish most of all:

> Tell me, where is fancy bred;
> Or in the heart, or in the head
> How begot, how nourished?
> Reply, reply!
> It is engendered in the eyes,
> With gazing fed; and fancy dies
> In the cradle where it lies.

With the seeing eye, fancy will always hold sway, the human face divine never cease to have its divinity, and, though *sans* ear and speech, with its eloquent eye, carmine lip and cheek, the lovely hair that is its crown of glory, will ever give inspiration to the artist as well as lover.

The moving picture would become so perfected, as it certainly will under existing conditions, that television would become an accomplished fact and any citizen by merely pressing a button or turning a crank and calling "Central" in signs for such and such a number—for there would be numbers—could see and talk with the desired person in the sign language and rapidly and accurately convey his message or desires.

There would be the same athletic development, the same sports, the same games—hockey, baseball, football, tennis, the same contests, boxing, swimming, rowing, the same horse races, auto, seaplane and aeroplane races; there would be the same track and field sports. All these depend on the eye and the absence of hearing would have a negligible effect

compared with what all these activities are today. There would be Morphys, Anderssens, Laskers and other chess masters.

Warfare would be as it has been and is now. For, reduced to its last analysis, in warfare it is an accurate estimate of distance in its many forms that is the deciding factor—the distance to which a javelin may be thrown or a stone slung, or a catapult hurtle its missile; or the thrust of a sword or spear; or the effective range of a musket or rifle, or shotgun, or of a high-powered rifled gun with a 2,000 pound projectile; or the cruising radius of war vessels of every kind.

It should not be forgotten that though all the foregoing has been based on the hypothesis of a world without light, meaning without sight, on the one hand and without sound, meaning without hearing on the other, the causative influences and agencies of sound and light nevertheless exist. Sound and light are phenomena which, in either instance, the brain fails to perceive for the reason that the proper agencies for their perception and reception, the eye and ear with their nerves, brain centers and external organs are supposed not to exist.

It stands to reason that in the same manner there may be and very likely are manifestations of phenomena and natural forces of which we are unaware because we are not equipped with the necessary media for their perception. There might be some special sense by which such a concept as the fourth dimension, or even the theory of relativity, would be as easily grasped as gravity or our present tridimensional restrictions.

But comparing the relative importance of sight and hearing as above set forth, the advantage lies vastly with the former. But nevertheless, in our present everyday life the person bereft of hearing is at a great disadvantage for the reason that the universal medium of communication, speech, is absolutely foreign to the vicarious sense that is forced to serve in place of the ear, the eye, whereas the blind have not the smallest difficulty in mingling with and being of their hearing environment.

This may explain why we have so many more blind men

of note and practically no deaf men in the annals of the race. Homer and Milton, the two greatest epic poets, Belisarius, the Byzantine, John, the blind king of Bohemia, slain at Crecy, are historical figures. In fiction we have the lovely figure of Bulwer-Lytton's Nydia, of Sophocles' Oedipus, led by the sweetest of all old-time daughters, Antigone; the horrid example of Gloucester in *King Lear,* and then again unhappy Prince Arthur, historical and looming large in legend and fiction, nor to forget the pathetic, contrasting figure of poor Lavinia in *Titus Andronicus.*

In a crowd a deaf man passes unnoticed as a unit of the throng, but a blind man becomes conspicuous and seeing none is seen of all. The deaf man is independent in his movements, hampered in his discourse; the blind man must always move with hesitant uncertainty but is free and untrammelled in his utterances. Each has his compensations and each seems happy.

An Adjustment Inventory for Use in Schools for the Deaf

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MODERN educators are recognizing to an increasing extent the new responsibilities which present-day living has conferred upon the school. Training in language, in conventional subject matter, and vocational preparation are being supplemented more and more by an emphasis on other phases of learning, particularly on the development of character and sound mental health.

The scientific spirit in education stimulated the development of objective measures of intelligence and school achievement. The more recent interest in mental hygiene has led to objective tests in the field of personality adjustment. Various types of personality inventories are now available for school children and high school pupils; but the language difficulty of most of these has made their practical use with deaf subjects almost impossible.

DEVELOPMENT OF THE ADJUSTMENT INVENTORY FOR DEAF CHILDREN

The present discussion deals with an adjustment inventory devised specifically for deaf school children. Questions for the test were adapted in part from available tests for hearing children. Suggestions for additional items were gathered from direct observations of deaf children and the types of situations in which they are likely to find themselves. Preliminary forms of the inventory were tried out repeatedly on groups of deaf children and revisions were made to assure not only the validity of items but also their comprehensibility to deaf pupils.

The Adjustment Inventory in its final form follows.

Name ..... Class .....

School ..... Date .....

ADJUSTMENT INVENTORY

After each question put a mark ∨ in front of the one sentence which is true.

1. Are you strong?
   —— I am not strong.
   —— I am the same as my friends.
   —— I am very, very strong; I am stronger than my friends.

2. Do you like to play games?
   —— I do not like to play games.
   —— I like to play games a little.
   —— I like to play games very well.

3. Do you like your brothers or sisters?
   —— I like them a little.
   —— I do not like them.
   —— I like them very well.
   —— I have no brothers and no sisters.

4. Do other children like you?
   —— They like me a little.
   —— They like me very well.
   —— They do not like me.

5. Can you run fast?
   —— I can run very, very fast; I can run faster than other children.
   —— I can run the same as other children.
   —— I cannot run fast.

6. Do you like animals?
   —— I like animals very well.
   —— I do not like animals.
   —— I like animals a little.

7. Do you like to play ball?
   —— I do not like to play ball.
   —— I like to play ball a little.
   —— I like to play ball very well.

8. Do you play with other children?
   —— Sometimes I play with other children.
   —— I always play with other children.
   —— I do not play with other children.

9. Are people at home good to you?
   —— Sometimes they are good to me.
   —— They are very good to me.
   —— They are not good to me.

10. Do you like your teachers?
    —— I do not like teachers.
    —— I like them a little.
    —— I like them very well.

11. Can you play games?
   —— I play games very, very well; I play better than other children.
   —— I can play games the same as other children.
   —— I cannot play games.

12. Are you happy at home?
   —— I am not happy at home.
   —— Sometimes I am happy at home.
   —— I am very happy at home.

13. Do you work hard in school?
   —— I do not work hard.
   —— I work the same as other children.
   —— I work very, very hard; I work more than other children.

14. Do you obey your father and mother at home?
   —— I always obey them.
   —— I do not obey them.
   —— Sometimes I obey them.

15. Do you have friends at home, outside of this school?
   —— I have no friends at home.
   —— I have many friends at home.
   —— I have one or two friends at home.

16. Are you sometimes a bad boy or girl?
   —— Sometimes I am bad.
   —— I am not bad.
   —— I am always bad.

17. Do you want to have friends?
   —— I do not want to have friends.
   —— I want to have one or two friends.
   —— I want to have many friends.

18. Do your brothers or sisters fight with you?
   —— They do not fight with me.
   —— Sometimes they fight with me.
   —— They have many fights with me.
   —— I have no brothers and no sisters.

19. Do you like to talk with your father and mother?
   —— I like to talk to my father and mother very well.
   —— I do not like to talk to them.
   —— I like to talk to them a little.

20. Do you like school?
   —— I like school a little.
   —— I like school very well.
   —— I do not like school.

21. Do children at home, outside of this school, play with you?
   —— They play with me sometimes.
   —— They do not play with me.
   —— They like to play with me.

22. Are you smart?
—— I am the same as other children.
—— I am not smart.
—— I am very, very smart; I am smarter than other children.

23. Are you afraid of your brothers or sisters?
—— I am very much afraid of them.
—— I am a little afraid of them.
—— I am not afraid of them.
—— I have no brothers and no sisters.

24. Do you want to be a good boy or girl?
—— I want to be good the same as other children.
—— I do not want to be good.
—— I want to be very, very good; I want to be better than other children.

25. Are you happy with other children?
—— I am not happy with other children.
—— Sometimes I am happy with other children.
—— I am always happy with other children.

26. Are you afraid of other children?
—— I am not afraid of other children.
—— I am afraid of one or two children.
—— I am afraid of many children.

27. Can you play ball?
—— I can play ball very, very well; I can play better than other children.
—— I can play ball the same as other children.
—— I cannot play ball.

28. Do you obey your teachers?
—— Sometimes I obey my teachers.
—— I do not obey my teachers.
—— I always obey my teachers.

29. Do your father and mother like you?
—— They love me very well.
—— They do not like me.
—— They like me a little.

30. Do other children fight with you?
—— They do not fight with me.
—— They always fight with me.
—— Sometimes they fight with me.

31. Are other children afraid of you?
—— One or two children are afraid of me.
—— No children are afraid of me.
—— Many children are afraid of me.

32. Do you like to run and play?
—— I like to run and play very well.
—— I do not like to run and play.
—— I like to run and play a little.

33. Do you like to go to a party?
   —— I like to go to many parties.
   —— I do not like to go to a party.
   —— Sometimes I like to go to a party.

34. Are you afraid of your father and mother?
   —— I am a little afraid of my father and mother.
   —— I am very much afraid of my father and mother.
   —— I am not afraid.

35. Do you like the children in this school?
   —— I do not like them.
   —— I like them a little.
   —— I like them very well.

36. Do you fight with your brothers or sisters?
   —— I have many fights with them.
   —— Sometimes I fight with them.
   —— I do not fight with them.
   —— I have no brothers and no sisters.

37. Are your father and mother good to you?
   —— Sometimes they are good to me.
   —— They are always very good to me.
   —— They are not good to me.

38. Do you like to talk to your teachers?
   —— I like to talk to them very well.
   —— I do not like to talk to them.
   —— I like to talk to them a little.

39. Do your brothers or sisters like you?
   —— They do not like me.
   —— They love me very well.
   —— They like me a little.
   —— I have no brothers and no sisters.

40. Are teachers good to you?
   —— They are not good to me.
   —— Sometimes they are good to me.
   —— They are very good to me.

41. Are your clothes pretty?
   —— My clothes are not pretty.
   —— My clothes are the same as other children's.
   —— My clothes are very, very pretty; they are prettier than other children's clothes.

42. Do many other children like to play with you?
   —— One or two children like to play with me.
   —— Many children like to play with me.
   —— No children like to play with me.

43. Are you happy in school?
   —— Sometimes I am happy in school.
   —— I am always happy in school.
   —— I am not happy in school.

44. Do you have bad dreams at night?
—— I have very many bad dreams at night.
—— Sometimes I have bad dreams at night.
—— I have no bad dreams.

45. Do you like to play with other children?
—— I do not like to play with other children.
—— I like to play with one or two children.
—— I like to play with many children.

46. Do you like to be alone?
—— I do not like to be alone.
—— Sometimes I like to be alone.
—— I always like to be alone.

47. Do you fight with other children?
—— I have many fights with other children.
—— Sometimes I fight with other children.
—— I do not fight with other children.

48. Do you have friends in this school?
—— I have one or two friends in this school.
—— I have no friends in this school.
—— I have many friends in this school.

49. Are you afraid of your teachers?
—— I am not afraid of teachers.
—— Sometimes I am afraid of teachers.
—— I am always afraid of teachers.

50. Do you like to help other children?
—— I do not like to help other children.
—— Sometimes I like to help other children.
—— I always like to help other children.

51. Are you happy?
—— I am very happy.
—— I am not happy.
—— I am a little happy.

52. Are you afraid at home?
—— Sometimes I am afraid at home.
—— I am always afraid at home.
—— I am not afraid at home.

53. Do teachers like you?
—— They like me the same as they do other children.
—— They like me more than they like other children; they like me best.
—— They do not like me.

54. Do you like to talk to other children?
—— I like it a little.
—— I like it very well.
—— I do not like to talk to other children.

55. Do children in this school play with you?
   —— They like to play with me.
   —— Sometimes they play with me.
   —— They do not like to play with me.

56. Are you pretty?
   —— I am the same as other boys and girls.
   —— I am not pretty.
   —— I am very, very pretty; I am prettier than other children.

57. How are your marks in school?
   —— My marks are not good.
   —— My marks are the same as other children's.
   —— My marks are very, very good; they are better than other children's.

58. Do you like to help your teachers?
   —— Sometimes I like to help them.
   —— I always like to help them.
   —— I do not like to help them.

59. When were you very happy?
   —— I was very happy when I was a baby.
   —— I am very happy now.
   —— I was never very happy.

60. What do you like to do best?
   —— I like to sit and do nothing.
   —— I like to read a book.
   —— I like to be with my friends.

61. Which one do you like best?
   —— I like to be alone.
   —— I like to be with grown-up people (big people).
   —— I like to be with my friends.

62. Are you afraid in the dark?
   —— I am very much afraid in the dark.
   —— I am a little afraid in the dark.
   —— I am not afraid in the dark.

63. Do you like language lessons?
   —— I do not like language lessons.
   —— I like language lessons very well.
   —— I like language lessons a little.

64. Do you have friends who can talk and hear?
   —— I have one or two friends who can talk and hear.
   —— I have no friends who can talk and hear.
   —— I have many friends who can talk and hear.

Directions for Administering the Adjustment Inventory

The Adjustment Inventory is applicable to pupils who have sufficient language ability to understand the meaning

of the questions. This will be found to include for the most part pupils in the intermediate and advanced grades of schools for the deaf, or children who have been under instruction for about four or more years. The test has been designed as a group instrument and may be given with little difficulty to children in their regular classroom groups, or, if preferred, to pupils individually.

In order to obtain frank responses, it is well to have a person other than the children's classroom teacher administer the inventory. As much help as may be needed should be given to pupils to enable them to understand the meaning of the items. Words or phrases that they do not know may be explained. But care must be taken not to influence their responses, nor to correct them for giving answers that appear to be contrary to observed fact. The aim of the inventory is to reveal the beliefs and attitudes of children.

Before the papers are distributed, the examiner should hold up the inventory before the group and convey the following information:

> To-day you will write in this book. Many children in many schools have written in this book. We want to know what boys and girls think and want.

Add directions for writing name, grade, date, and any other desired information at the top of the first page.

The following demonstration exercise on the board will help pupils understand what is expected of them:

> Make one mark √ before the true answer—
>
> Are you tall?
> —— I am not tall.
> —— I am the same as other children.
> —— I am very, very tall; I am taller than other children.

Different children in the group may volunteer their answer and place their check mark in front of the appropriate response. Do not leave more than one checked response at a time on the board. Explain, if necessary, that the mark √ means the same thing as "yes," and that only one answer under each question is to be checked. Children should be impressed with the fact that every question must be answered, and that there are no right or wrong answers, but

that every child will mark what is true in his own case. Sufficient time should be allowed to enable every pupil to complete the inventory.

Directions for Scoring the Adjustment Inventory

Four objective measures are obtained from the Adjustment Inventory for Deaf Children. The score in general adjustment includes the responses to all the items on the inventory, providing a measure of reactions to a variety of situations within the experience of deaf school children. The score in social adjustment pertains to the pupil's relationship with his contemporaries at school and at home, the extent to which he prefers to engage in social rather than solitary activities, and his success in getting along well with others. School adjustment includes a measure of the pupil's behavior and attitudes toward schoolroom situations, teachers, and classmates. Home adjustment refers to the pupil's relationships with his parents, his brothers and sisters, and other members of the home group.

If only one score on the Adjustment Inventory is desired, it is suggested that the measure in General Adjustment be employed since it ranks highest among the four measures in reliability and validity.

The scoring in all four adjustment areas is so arranged that individual responses indicative of very poor adjustment are given a zero value, responses symptomatic of very good adjustment a score of two, and intermediate responses a score of one. The score for any one area is obtained by adding the values assigned to the individual items checked by the child. It follows that high scores are indicative of better adjustment than low scores.

Scoring keys for the four adjustment areas are included. The process of scoring may be simplified by placing a strip containing the numerical value for each response in alignment with the pupil's replies on his test paper. The scores assigned to the particular responses as checked by the pupil may then be added readily for each page from an inspection of the face of the key. A separate set of strips should be constructed for each of the test areas to be scored.

SCORING KEYS FOR ADJUSTMENT INVENTORY

Item No.	*Gen. Adj.*	*Soc. Adj.*	*School Adj.*	*Home Adj.*	*Item No.*	*Gen. Adj.*	*Soc. Adj.*	*School Adj.*	*Home Adj.*
1.	0				14.	2			2
	2					0			0
	0					2			2
2.	0	0			15.	0	0		0
	1	1				2	2		2
	2	2				1	1		1
3.	0			0	16.	2			
	0			0		2			
	2			2		0			
	2			2					
					17.	0	0		
4.	1	1				0	0		
	2	2				2	2		
	0	0							
					18.	2			2
5.	0					2			2
	2					0			0
	0					2			2
6.	2				19.	2			2
	0					0			0
	1					1			1
7.	0	0			20.	1		1	
	1	1				2		2	
	2	2				0		0	
8.	1	1			21.	1	1		1
	2	2				0	0		0
	0	0				2	2		2
9.	1			1	22.	2		2	
	2			2		0		0	
	0			0		0		0	
10.	0		0		23.	0			0
	1		1			1			1
	2		2			2			2
						2			2
11.	0	0			24.	2			
	2	2				0			
	0	0				1			
12.	0			0					
	1			1	25.	0	0		
	2			2		1	1		
						2	2		
13.	0		0						
	2		2		26.	2	2		
	0		0			1	1		
						0	0		

SCORING KEYS FOR ADJUSTMENT INVENTORY (*Continued*)

Item No.	*Gen. Adj.*	*Soc. Adj.*	*School Adj.*	*Home Adj.*	*Item No.*	*Gen. Adj.*	*Soc. Adj.*	*School Adj.*	*Home Adj.*
27.	1	1			40.	0		0	
	2	2				1		1	
	1	1				2		2	
28.	1		1		41.	0	0		
	0		0			2	2		
	2		2			0	0		
29.	2			2	42.	0	0		
	0			0		2	2		
	0			0		0	0		
30.	2	2			43.	2		2	
	0	0				2		2	
	2	2				0		0	
31.	1	1			44.	0			
	2	2				2			
	0	0				1			
32.	2	2			45.	0	0		
	0	0				0	0		
	1	1				2	2		
33.	2	2			46.	1	1		
	1	1				2	2		
	2	2				0	0		
34.	1			1	47.	0	0		
	0			0		2	2		
	2			2		2	2		
35.	0	0	0		48.	0	0	0	
	1	1	1			0	0	0	
	2	2	2			2	2	2	
36.	0			0	49.	2		2	
	2			2		1		1	
	2			2		0		0	
	2			2					
37.	1			1	50.	0	0		
	2			2		1	1		
	0			0		2	2		
38.	2		2		51.	2			
	0		0			0			
	1		1			1			
39.	0			0					
	2			2	52.	1			1
	1			1		0			0
	2			2		2			2

SCORING KEYS FOR ADJUSTMENT INVENTORY (*Continued*)

Item No.	*Gen. Adj.*	*Soc. Adj.*	*School Adj.*	*Home Adj.*	*Item No.*	*Gen. Adj.*	*Soc. Adj.*	*School Adj.*	*Home Adj.*
53.	2		2		59.	1			
	0		0			2			
	0		0			0			
54.	1	1			60.	0	0		
	2	2				2	2		
	0	0				2	2		
55.	2	2	2		61.	0	0		
	1	1	1			1	1		
	0	0	0			2	2		
56.	2	2			62.	0			
	0	0				2			
	0	0				2			
57.	0		0		63.	0		0	
	2		2			2		2	
	1		1			1		1	
58.	1		1		64.	1	1		
	2		2			1	1		
	0		0			2	2		

INTERPRETATION OF SCORES ON THE ADJUSTMENT INVENTORY

Inventory scores may be evaluated by various methods. If the test has been given to a large population at one school, the scores of individual pupils may be compared with the average or median score for the total group tested at the school, and those pupils considered well or poorly adjusted who score decidedly above or below the average or median of their group. Since girls average better adjustment scores than boys, it is necessary to treat separately the scores of boys and girls, and to compare the scores of individual pupils with the average of their own sex only. Age between the years of nine and twenty-two has been found to have no consistent influence on score; therefore the same norms are applicable to all pupils within this age range.

If only a small number of children has been tested at a school, or if comparisons with a total group are for other reasons not feasible, percentile norms will be of value. A

PERCENTILE NORMS—ADJUSTMENT INVENTORY FOR DEAF CHILDREN

(Based on the scores of 770 deaf boys and 560 deaf girls)

1	*2*		*3*		*4*		*5*	
Percentile Score	*General Adjust.*		*Social Adjust.*		*School Adjust.*		*Home Adjust.*	
	Boys	*Girls*	*Boys*	*Girls*	*Boys*	*Girls*	*Boys*	*Girls*
100	128	128	58	58	32	32	30	30
99	127	127						
98	126	126	57					
96	125		56					
95	124	125	55	57				
93	123	124						
92	122							
90	121	123		56	31	31		
88	120	122						
86	119	121						
85	118	120	54	55	30		29	29
82	117							
80	116	119	53		29	30		
78	115							
75	114	118	52	54				
72	113							
70	112	117	51	53	28	29	28	
67	111	116						
65	110	115	50					
60	109	114	49	52	27			28
57	108							
55	107	113	48	51			27	
50	106	112	47	50	26	28		27
48	105							
45	104	111	46	49			26	
42	103	110						
40	102	109	45		25	27		
38	101							
35	100	108	44	48	24	26	25	26
32	99	107						
30	98	106	43	47	23	25		
28	97							
27		105						
25	96	104	42	46			24	25
24		103						
23	95		41					
22		102		45				
20	94	101	40	44	22	24	23	24

PERCENTILE NORMS—ADJUSTMENT INVENTORY FOR DEAF CHILDREN—*Continued*

(Based on the scores of 770 deaf boys and 560 deaf girls)

1	*2*		*3*		*4*		*5*	
Percentile Score	*General Adjust.*		*Social Adjust.*		*School Adjust.*		*Home Adjust.*	
	Boys	*Girls*	*Boys*	*Girls*	*Boys*	*Girls*	*Boys*	*Girls*
19	93	100						
17	92	99		43				
15	91	98	39	42	21	23	22	23
14	90	97						
13		96		41				
12	89	95	38					
10	88	94	37	40	20	22	21	22
9	87	93						
8	86	90–92	36	39	19	21		
7	85	89		38				
6	84	88	35	37	18	20	20	21
5	76–83	80–87	31–34	35–36	14–17	17–19	17–19	18–20
4	68–75	72–79	27–30	33–34	10–13	14–16	15–16	15–17
3	60–67	65–71	23–26	31–32	7– 9	11–13	13–14	12–14
2	53–59	59–64	20–22	29–30	4– 6	8–10	11–12	8–11
1	–52	–58	–19	–28	– 3	– 7	–10	– 7

percentile score indicates the proportion of the population which a given pupil exceeds in the particular adjustment area. The higher his percentile score, the better is his adjustment.

In the Table of Percentile Norms the first column shows the percentage of a total of 770 deaf boys and 560 deaf girls attaining a given score in the adjustment areas listed in columns two to five inclusive. For instance, if a boy has obtained a score of 125 in general adjustment, this figure may be located in the first part of column two, and then, by continuing to the left in a straight horizontal line to column one the corresponding percentile score will be found to be 96, indicating that this boy exceeds in general adjustment the score of ninety-six per cent of the norm population and that only four per cent of the cases obtain better scores than he. Similarly, a girl with a score of 46 in social adjustment will, from an inspection of the second part of column

three and the figure on the same line in column one, be found to have a percentile score of 25 in social adjustment. A percentile score of 25 means that this score is better than that obtained by one fourth of the norm population, but that it is exceeded by 75 per cent of the cases. Again, a boy who obtains a score of 18 in home adjustment has, as may be seen from columns five and one respectively, a percentile score of 5 in home adjustment, indicating that this boy excels in this test area only five per cent of the total number of cases and is surpassed in turn by ninety-five per cent of the cases. Other scores in the various test areas are interpreted in a similar manner.

Some Results from the Adjustment Inventory

The inventory has been employed as a measuring instrument in a comparison of the behavior adjustment of deaf and hearing children. Applied in this capacity, the Adjustment Inventory revealed consistent differences between the deaf and hearing, pupils of residential schools for the deaf averaging in every instance poorer scores than hearing public school children. The largest difference between the two sets of groups occurred in social adjustment. However, this differentiation was true only between the deaf and hearing in groups, since many deaf individuals obtained scores as high as some of the hearing, and conversely, some of the hearing scored as low as some of the deaf.

Deaf pupils who were rated by their teachers as very well adjusted obtained in general better scores on the Adjustment Inventory than children who were considered to be maladjusted. Although practically no relationship was found between inventory scores and intelligence test results, those pupils who were described by their teachers as doing excellent school work scored as better adjusted than pupils whose work in school was unsatisfactory. The likelihood is that among groups with the same degree of intelligence, the better adjusted will be more successful in their classroom work. Similarly, pupils taught by the oral method averaged slightly better scores than pupils in manual classes.

Possible Uses of the Adjustment Inventory

Practically applied in schools for the deaf, the Adjustment Inventory lends itself to various uses. It may be administered along with mental and achievement tests to provide a more complete picture of the pupil's strong points and weaknesses. In a school survey it may be used in the intermediate and advanced grades for locating cases who deviate from the average of their group in attitude or behavior. This is especially important for pupils with personality difficulties whose characteristic behavior is too shy or withdrawing to attract the attention of those able to render help. Inventory results may not only give evidence of a pupil's problems in adjustment or suggest the need for special treatment, but may supply as well some clues to his needs in educational and vocational guidance. Moreover, what the child says about himself in response to individual test items may supplement other available information about him.

In connection with research projects the inventory should be of value in pointing out the relative adjustment of various grades or groups, and in measuring the effect on adjustment of such factors as different methods of instruction, variations in curricula, changes in home environment, etc.

In short, an adjustment inventory for the deaf may serve for this group the same varied and numerous purposes to which adjustment tests have been already successfully applied among the hearing.

Teaching Time Relations to Deaf Children

By A. Edwina Elliott
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Zona Gale, in speaking of her own childhood, (When I Was a Little Girl)* says, "Time always bothered us. We played with the idea of time. Now is now. But now that other Now is gone and a Then is now. How did it do it? How do all the Nows begin? When is tomorrow? we demanded. When today stops being today, was the only answer."

If a normal child recognizes the difficulties and confusion encountered in forming time concepts, how much more then should a deaf child find them difficult. He does not know that such terms exist when he enters school and the abstract nature of the material to be dealt with makes the meaning of such words very difficult to teach. It is very necessary, however, for a deaf child to understand time expressions as early as possible not only for his understanding of *when* things happen but also because his learning of one of the fundamental language principles, that of the tense of verbs, is directly dependent on his understanding of time.

A normal child hears time expressions used repeatedly from infancy and through experience he has formed associations enough to distinguish between morning and afternoon at six years of age. The Stanford revision of the Binet tests places the distinction between morning and afternoon at the six-year level; a knowledge of the names of the days of the week at seven; and of the date, that is, the month, day of the month and the year and the names of the months at nine years.

Louisa C. Wagoner (The Development of Learning in Young Children) makes clear the way in which a knowledge of time-relations develops. She quotes as authorities M. Sturt (Psychology of Time), K. C. Moore (Mental Devel-

* The names of all books used for reference are placed in parenthesis after the names of the authors.

opment of a Child), G. V. N. Dearborn (Motor-sensory Development), J. Sully (Studies of Childhood) and others. She says, in part:

"The timelessness of early childhood is broken by recurrence of physiological events—by eating and sleeping, by the alternation of darkness and light and by the disappearance and reappearance of other human beings. Gradually as such recurrences come to be associated with time words the young child builds up an idea of the sequence of events which constitute time as an experience. . . . A one-way progression of time—an irreversible, irrevocable quality—comes to be attached to the time words of everyday use. It is through experience that the concept of duration and its significance in the orderly progression of events is achieved. . . . Slowly, through experience, is built up the notion of time before and after, of time between sleeps, of the succession of days and weeks, months and years. . . . Study of the development of children's knowledge of time is based, perforce, on their use of time words. Due to inexpertness these words are frequently used in a confused way."

Wagoner quotes diary records of children's use of time words which sometimes show this confusion. Harriet Johnson (Children in the Nursery School) speaks of young children "experimenting with the use of words they haven't a clear understanding of—such as *yesterday, tomorrow,* and words indicating cause and relationship." This experimentation probably promotes learning, for an incorrect statement as to the time that an event happened or will happen is quite certain to be corrected by the elders. So, while children 5 years of age and younger may use time expressions correctly, it may be that they are repeating what they have heard or that they are using the words experimentally and have happened on the correct ones by chance. Of course there are as many children above the average in their ability to recognize time relations as in all other traits.

Wagoner continues, "Before the child knows time words in series he has grasped bits of time information, as for example, 'We don't come to school on Saturday,' or 'Mamma is at home now,' or 'After my nap Mamma will come for

me.' The child who has grasped the idea that tomorrow becomes today has reached an advanced stage."

In regard to the time words first used, William Stern (Psychology of Early Childhood) says, "To begin with, the child knows only a direct sense of the present, and a desire or aversion directed to the very immediate future, but the past which can only be grasped by the loss of the subjective will-impulse does not appear in the child's consciousness until a much later period. . . . The subjective time-relations of the present and future are first mastered in speech. . . . Past time on the other hand does not find expression for another six months. And the same sequence is seen in adverbs of time; the expressions of the present and future, such as *at once, then, now, tomorrow, soon,* have long since been adopted when words referring to the past, as *just then, yesterday, before,* creep in with laggard step." Wagoner claims that "the time words first used by the child refer to the present and to simultaneous events. . . . Later comes a knowledge of past experiences and finally a notion of future time."

This apparent difference of opinion is not of practical importance, for the words that a child uses first depend on his experiences and needs. Frank N. Freeman (Psychology of Common Branches) says, "The child first makes the distinctions which are called to his attention by the practical needs of his life. He will distinguish between morning and afternoon, when during the forenoon he is promised something which will occur in the afternoon. Again, during the afternoon his recollection of the forenoon and his discrimination of that period from the rest of the day may be stimulated by conversation about something which occurred then."

Freeman and Henry H. Goddard (Psychology of the Normal and the Sub-Normal) offer suggestions for aiding the child in forming time concepts. Freeman stresses leading him to "observe the signs which mark the divisions of time, and to use them to set in order his memories of what has happened in the past or his anticipation of the future." Both stress the need to connect experiences of life with definite

time periods—events which occurred yesterday, today, or will occur tomorrow; that recur at the end of weekly periods or on certain days; that recur annually, as holidays, vacations and birthdays, which gradually bring to mind the notion of a year. Goddard protests against teaching the names of the days and the months, claiming that they will be learned by the child when he needs them.

Freeman says, "Any near approach to an exact notion of the longer periods of time requires that the child shall not only remember and anticipate in a general way but that he shall make definite the duration of time intervals through the use of numbers." He sums up the problem as follows, "The appreciation of time through the observation of events, as well as by means of the number idea, rests upon the forms of experience which the child gets only gradually and does not attain at an early age. All of these forms of analysis of temporal imagination indicate that it is a matter of growth on the part of the child, and make it clear that the degree of clearness which is necessary for the appreciation of historical sequences is not to be looked for until the child has been in school for at least three or four years. Even then the development is not completed, but is only thoroughly started."

What, then, should we as teachers expect of deaf children entering school at five years of age, and what methods should we use to promote learning of time-relations? Certainly we should not expect them to do more than the average normal child does, but it is feared that many of us have made that error. We have been wise in connecting events and happenings with the proper time words, but we have foolishly demanded that these small children point to the squares on the calendar representing yesterday, today and tomorrow and as soon as they could write, that they fill blanks in sentences with the names of the days,—Today is ————. Yesterday was ————. Tomorrow will be ————.

The deaf child has, of course, observed in some way the passage of time but he has no way of expressing it nor does he understand the expressions of others. Now, according to

our data, prerequisites for time concepts are a volume of experience in associating time words with everyday events and finally reaction to those words with understanding. Assuming that this process of association does not begin until the child enters school, it would seem advisable to spend at least the first year in school in developing perception of certain time-relationships, probably of *this morning, this afternoon, tomorrow, today* and *yesterday.*

The calendar furnishes the only concrete means of noting the passage of days, weeks and months but, according to our data, they should never be presented merely as such but always as the time *when* definite events happened, happen or will happen. Each morning "yesterday" may be crossed off while referring to what the children did on that day, and the other days pointed to as the words *yesterday, today, this morning, tomorrow,* etc., are used in written, printed and spoken sentences about those days. These sentences are of course given by the teacher at first but must be understood by the children. "Betty fell and hurt her arm this morning," has real meaning for the child who did it. While pointing to *today* on the calendar the existing weather should be called to the attention of the children and may be recorded on the calendar by drawing the sun, raindrops or snowflakes. The events spoken of above should be of real interest to the children but do not need to be anything unusual. Routine events which occur on certain days, such as going to dancing class, to rhythm class, having bananas for breakfast and, of course, going home, arouse their desire to know when they will repeat certain experiences and so produce definite time concepts more than unusual events which arouse fleeting interest and enthusiasm. The writer believes that there should be no set response to these time words demanded of a deaf child in his first two years in school but one may feel sure that with the repeated experiences suggested the terms will assume meaning and their natural place in the child's vocabulary within that time.

Miss Josephine Bennett, of the Lexington School for the Deaf in New York City, has developed a method helpful in the second-year classes. The wall-slate is ruled in seven col-

umns over which are written the names of the days in order but not always beginning with the same day, and later the date. Each day the children suggest, by means of whatever words they have and by pantomime, drawings, etc., little news items to be written by the teacher at first and later by the children themselves in the proper columns; that Joe's father came to see him yesterday afternoon, that Mary has on new shoes today, that Betty is going home tomorrow. The next day the time words and the verbs are changed where necessary and new sentences written, all being left on through the week. This work is all associated with the calendar.

The children learn the meaning of such terms as *after a while, soon, in a little while,* from their teacher's use of them in promising or foretelling happenings. The passage of time by weeks and months is brought to the children's attention and the holidays and birthdays occurring in each new month arouse great interest. A desk calendar with a page turned each day seems of greater value in discussing annual events such as birthdays than the monthly wall calendar. A child learns that he is six now and that on his birthday he will be seven; then that birthday comes, he is seven, and is shown that when all of those leaves on the calendar have been turned over and we get a new calendar for 1937 and turn the leaves as far as that day again, he will be eight years old. As each child's birthday comes the other children are reminded of their own and realize how slowly the leaves are turned and so get an idea of the length of a year. New pictures on the wall each month can help to call attention to the children's changing interests with the changing seasons.

The children begin to use time words themselves in the second year in school. The writer's second-year class one year (Average age in September, 6 years 10 month) was using *yesterday, today, tomorrow, this morning, this afternoon, after a while, soon* and *last night.* The children used the names of the days with fair accuracy. They understood some others but did not use them unless they were suggested. The names of the months were called to their attention as often as possible in connection with events. Before Easter the most

frequent question was whether they might take certain possessions home then. The reply, "No, but you may take them home in June," soon brought the response of turning to the calendar for June and pointing to the 14th with great satisfaction.

These methods of always associating time phrases with events and of leading the children to observe the passage of time and the changes it brings should be continued throughout the primary grades, adding new words to the vocabulary as need arises or is created by the teacher.

Miss Edith M. Buell, formerly of the Lexington School, gives, in her "Outline of Language Work" the following time expressions which a deaf child should know after four years in school: In addition to the names of the days, months, seasons and holidays, such adverbs and phrases as—

last next	Monday summer week etc.	a few minutes ago a little while ago a week ago a long time ago
this	morning afternoon evening week year spring etc.	always just now often all the time
every	day month Sunday etc.	
yesterday tomorrow in the	morning afternoon evening	

This standard seems to be comparable to the Binet standard for the nine-year level, which leads to the conclusion that through definite training a deaf child may become very nearly equal to his hearing brother in his ability to understand and use such abstract terms as those of time. However, we find history teachers complaining of the difficulty of teaching history to the deaf, probably because the children have missed some of the necessary steps in training for clear thinking regarding time relations.

The child first needs words to express his own experiences

within short periods of time as related to the present. Gradually the span is lengthened to include such expressions as, "When I was a little boy—," "When I first came to school—" and to include ideas not directly related to himself, as, "When—(teacher, mother, etc.) was a little girl—," "When (a very old person) was little—." Such terms as *since, while, until, in the meantime, whenever* and those of rather indefinite time as expressed in stories—*One Monday morning, the next day, that afternoon,* etc., should be added to the vocabulary.

Definite dates and the number of years ago should be estimated for all personal stories in order to give the children a basis for comparison for such historical dates as 1914, 1812, 1775 and 1492. The changes in the modes of living, of travel, of work and of recreation should be emphasized and the children led to imagine themselves in those times. A ten-year-old girl attending one of the best schools for the deaf in the country entertained her family during a vacation by pretending to be Martha Washington. She expressed her ignorance of and amazement at all the modern inventions, occasionally asking in an aside if certain things belonged to Washington's day. She had learned to think herself back to that period and was prepared for the next step, that of the use of such expressions as *sixty years before that, thirty years later,* etc.

The relativity of dates and of events connected with them need special emphasis. A few questions, such as, "Did Abraham Lincoln ever see George Washington?" and "Did your grandfather live at the same time as Abraham Lincoln?" will check up on the definiteness of the time concepts of older deaf children.

This discussion has not referred to telling time by the clock but that is comparatively easy to teach and may be done whenever the children seem to need it.

This paper does not claim any originality in the methods presented. It merely brings together some of the best methods now in use but urges that the young deaf child be led to acquire his knowledge of time relations in a manner as nearly normal as possible and that necessary aid in forming true time concepts be given him throughout the grades.

Abstracts of Articles Concerned with the Educational Psychology of the Deaf

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Although scientific experimentation with the deaf has been pursued for more than thirty years and although innumerable articles have been published, so far as the writer has been able to discover there is no complete bibliography of articles concerned with the educational psychology of the deaf. It is felt that there is a real need for such a bibliography, as presented here, in future research. These abstracts are submitted, therefore, with the hope that they may be of value to educators of the deaf and research workers in the problems of the deaf in their search for background material.

It is believed that all the important American studies of this nature have been included in this bibliography and it is hoped that this list may be expanded from time to time as new articles appear in the various psychological journals. Articles dealing with speech and residual hearing were not included in this study. Neither was an attempt made to complete this bibliography by including abstracts of all articles appearing in French and German literature about the deaf.

The abstracts are divided into three general groups: Tests and Measurements, Educational Methods, and Mental Hygiene. No more than a general division has been attempted as so many of the articles deal with more than one phase of the subject. In a few cases, the writer was unable to read the original article but had access to a reliable abstract. In cases of this kind, both the reference to the original article and the reference to the abstract are included. When the article abstracted contained experimental data or was written as the result of a scientific investigation, the abstract is marked "(Exp.)." The articles are arranged chronologically in the bibliography to afford a clear pano-

rama of the increasing importance of psychological studies in the education of the deaf.

These abstracts were prepared with the aid of, and under the supervision of, Dr. Fritz Heider of the Smith College Department of Education and the Research Department of the Clarke School for the Deaf.

Tests and Measurements

Greenberger, D., "Doubtful Cases," Annals, 1889, 34, 93.
The first to apply psychological principles of classification to the deaf explains his rough subjective method. (Exp.)

Taylor, H., "A Spelling Test," Annals, 1897, 42, 364-369.
Finds hearing children remember and write more words in fifteen minutes but make a greater percentage of mistakes in spelling than deaf children. (Exp.)

Mott, A. J., "The Ninth Year of a Deaf Child's Life," Annals, 1899, 44, 401-412; 1900, 45, 33-39.
After certain physical measurements and tests, as well as two psychological tests of memory and observation, concludes that deaf children are equal physically and are probably superior to hearing children in observation and memory. (Exp.)

Macmillan, D. P., and Bruner, F. H., "Children Attending the Public Day-Schools for the Deaf in Chicago," Special Report of the Department of Child Study and Pedagogic Investigation. Chicago Public Schools. May 1906. Abstract: *Psychol. Monog.* 1921, No. 132, 9-10.
Find deaf children inferior to hearing children physically and mentally, but conclude that the deaf are immature and eventually catch up to hearing. (Exp.)

Fox, T. F., "Grading and Courses of Study," Annals, 1908, 53, 181-186.
Proper grading in a school for the deaf is most valuable both for the child and the teacher. However, grading criteria for hearing children cannot be used with the deaf.

Kilpatrick, W., "Comparative Tests," Annals, 1912, 57, 427-428.
Says Binet tests should be revised for the deaf and used in schools as an aid in grading.

Kilpatrick, W., "Mentality Tests," Annals, 1914, 59, 394-398.
Using modified Binet-Simon tests, found rapid advance during years from five to eight, then a plateau to the twelfth year. After that, a direct diagonal path upward, some years behind norms for the hearing. (Exp.)

Pintner, R., and Paterson, D., "The Binet Scale and the Deaf Child," Annals, 1915, 60, 301-312. *J. Educ. Psychol.*, 1915, 6, 201-210.
Find this test unsatisfactory for use with deaf because of language difficulties. Suggest a performance test as a substitute. (Exp.)

KITSON, H. D. "Psychological Tests for Lip-Reading Ability," *Volta Review*, 1915, 17, 471-476.

Tested span of attention and synthetic ability (grouping activity of the mind). Finds correlation of .80 between the test results and the teacher's judgment. Believes it a good measure. (Exp.)

PINTNER, R., and PATERSON, D., "The Form Board Ability of Young Deaf and Hearing Children," *Psychol. Clinic*, 1916, 9, 234-237; ANNALS, 1916, 61, 184-189.

Find six-year-old hearing and seven-year-old deaf children about equal in form board ability at time of entering school. (Exp.)

PINTNER, R., and PATERSON, D., "A Class Test with Deaf Children," *J. Educ. Psychol.*, 1915, 6, 591-599; ANNALS, 1916, 61, 264-275.

Indicate possibility of using class tests (suggest performance tests) to compare ability of different groups. Find average deaf child to be three years retarded; orally-taught pupils, two years; manually-taught pupils, four year. (Exp.)

PINTNER, R., and PATERSON, D., "Learning Tests with Deaf Children," *Psychol. Monog.*, 1916, No. 88.

Believe Pintner tests are suitable for a general survey of the mental level of a school. (Exp.)

PINTNER, R., and PATERSON, D., "The Survey of a Day-School for the Deaf," ANNALS, 1916, 61, 417-433.

Use performance and language-ability tests to test a day-school in an attempt to measure the mental status of its pupils. (Exp.)

PINTNER, R., and PATERSON, D., "A Measurement of the Language Ability of Deaf Children," *Psychol. Rev.*, 1916, 23, 413-436; ANNALS, 1917, 62, 211-259.

Use Trabue Language Scale, and find it a good test for deaf. Orally-taught deaf do better than manually-taught deaf on the whole. (Exp.)

PINTNER, R., and PATERSON, D., "The Ability of Deaf and Hearing Children to follow Printed Directions," *Pedagog. Sem.*, 1916, 23, 477-497; ANNALS, 1917, 62, 448-472.

Using Woodworth and Well's "Easy Directions" test, find comprehension of language necessary for the test comes to the deaf at about fourteenth year. Orally-taught deaf show marked superiority over manually-taught pupils in older age groups. (Exp.)

PINTNER, R., and PATERSON, D., "A Companion of Deaf and Hearing Children in Visual Memory for Digits," *J. Exp. Psychol.*, 1917, 2, 76-88.

Find auditory experience important in visual memory for digits. Deaf children, as a group, have abnormally poor memory span for digits. (Exp.)

PINTNER, R., and PATERSON, D., "Psychological Tests of Deaf Children," *Volta Review*, 1917, 19, 661-667.

Explain Binet-Simon Scale as impractical for deaf children, hence the construction of the Pintner Scales. (Exp.)

PINTNER, R., "The Value of Mental Tests in the Classification of Pupils," ANNALS, 1918, 63, 196-204.

Says a method of grading by means of a performance test should be a great help for the teacher as chronological age groupings are not always satisfactory.

PINTNER, R., "The Measurement of Language Ability and Language Progress of Deaf Children," *Volta Review*, 1918, 20, 755-764.
Finds Trabue scale not finely graduated enough to show progress in deaf during period of six months. Suggests an improved scale as a help in grading classes for language instruction. (Exp.)

PINTNER, R., and PATERSON, D., "Some Conclusions from Psychological Tests of the Deaf," *Volta Review*, 1918, 20, 10-14.
Say experiments with deaf reveal a deficiency in language ability and mental ability. Latter due, in many cases, to illness; former, to lack of normal social intercourse. List points definitely established by experimental studies.

PORTEUS, S. D., "Measurement of the Intelligence of Deaf and Dumb Children," *J. Educ. Psychol.*, 1918, 9, 13-31.
Explains Porteus Maze Test. Believes this test can be used with deaf to give an estimate of intelligence and educability. (Exp.)

NEWLEE, C., "A Report of Learning Tests with Deaf Children," *Volta Review*, 1919, 21, 216-223.
Finds deaf children equal to hearing children in ability to build up associations. These results are three years ahead of Pintner's norms for the deaf. (Exp.)

PINTNER, R., "Deductions from Tests of Mentality in Schools for the Deaf," ANNALS, 1920, 65, 278-301.
Believes group tests aid in sizing up the individual and advocates the use of the Non-Language Survey Tests. Explains the standardization of norms for these tests. Advocates the use of charts of the children's mental and educational standing in comparing schools. (Exp.)

PINTNER, R., and REAMER, J., "A Mental and Educational Survey of Schools for the Deaf," ANNALS, 1920, 65, 451-472.
After giving Pintner Non-Language Group and Educational Survey Tests to a wide sampling of deaf children in both day-schools and institutions, find day-schools get better results than institutions from children of apparently equal mental caliber. Suggest further research in an attempt to isolate the factors of success of the day-school. (Exp.)

PINTNER, R., and REAMER, J., "Individual Differences Measured by Psychological Tests," ANNALS, 1921, 66, 8-28.
Find that deaf, as a group, are retarded two years mentally and five years educationally, and that possession of hearing up to the age of six has a very significant bearing upon future educational achievements. (Exp.)

DAY, H. E., and FUSFELD, I. S., "A Classification Test Given to the Students of Gallaudet College, ANNALS, 1921, 66, 409-424.
Believe the results from a standard test show weak spots in teaching as well as indicate the need for reclassification of students. (Exp.)

REAMER, J., "Mental and Educational Measurements of the Deaf," *Psychol. Rev.*, 1921, No. 132, 130 pp.
Attempts to combine mental and educational measurements. Finds mental retardation of two years and educational retardation of five years when deaf child is compared with hearing child. (Exp.)

PINTNER, R., "Intelligence Testing," 1923, Henry Holt Co., 312-330.
Gives a chapter of his book to a discussion of the deaf and their

problems. Reviews early and recent psychological studies and attempts to explain underlying factors.

McMANAWAY, H. M., "A Report of the Use of Standard Tests in the Virginia School for the Deaf," *Volta Review*, 1923, 25, 407-416; ANNALS, 1923, 68, 354-372.

Finds standard tests have a definite value in schools for the deaf as a general check and for diagnosing. Finds deaf child about five years older chronologically than hearing child of the same grade. (Exp.)

PINTNER, R., "Group Tests after Several Years," *J. Educ. Psychol.* 1925, 16, 391-395.

After giving non-language and educational tests to two schools for the deaf, and repeating the tests after an interval of three to four years, the author believes group tests should be repeated after a long interval to check the educational and mental status of the school as well as the stability of the pupils. (Exp.)

PINTNER, R., "The Survey of Schools for the Deaf," ANNALS, 1927, 72, 273-299.

Gave tests to a wide sampling of deaf children, established norms and found a method of comparison of the efficiency of different schools. (Exp.)

FARQUHAR, G. C., "A Study of a Reading Test," ANNALS, 1928, 73, 264-272.

Using standard achievement test in reading, finds low scores result from carelessness and language deficiencies. (Exp.)

DAY, H. E., FUSFELD, I. S., and PINTNER, R., "A Survey of American Schools for the Deaf, 1924-25," National Research Council, Washington, D.C., 1928, 296 pp.

Among other points, concerning the physical features of the schools, this survey reports on various mental and performance tests given to deaf children. Conclude that deaf children are retarded two years mentally and five years educationally in comparison with hearing children. (Exp.)

PINTNER, R., "A Mental Survey of the Deaf," *J. Educ. Psychol.*, 1928, 19, 145-151.

Results of educational and intelligence tests given to a sampling of deaf children conforming with the 1920 Census showing the geographical distribution of the deaf, indicate a two-year retardation intellectually and a five-year retardation educationally if compared with norms of hearing children. (Exp.)

DREVER, J., and COLLINS, M., "Performance Tests of Intelligence," 1928, Oliver and Boyd, Edinburgh, 52 pp.

Find that deaf children tested with the Drever-Collins performance scale do as well as hearing children. Believe that with the language factor removed, it is doubtful if deaf children are retarded. (Exp.)

HALL, P., "Results of Recent Tests at Gallaudet College," ANNALS, 1929, 74, 389-395.

After testing with the New Stanford Achievement Tests, believes these tests should be used by schools for the deaf both as a check on teaching methods and a criterion for pupil-promotion. (Exp.)

PINTNER, R., "Speech and Speech-Reading Tests for the Deaf," ANNALS, 1929, 74, 480-485.
Finds a marked correlation between speech, speech-reading and educational achievement, but that after a certain level of intelligence has been reached, intelligence of the non-verbal type is not a factor in speech and speech-reading. (Exp.)

BROWN, A. W., "Correlations of Non-Language Tests with Each Other, with School Achievement and with Teacher's Judgment of the Intelligence of Children in a School for the Deaf," *J. Appl. Psychol.*, 1930, 14, 371-375.
Feels that, in general, these tests do not predict educational achievement. (Exp.)

PETERSON, E. G., and WILLIAMS, J., "Intelligence of Deaf Children as Measured by Drawings," ANNALS, 1930, 75, 273-290.
Using Goodenough test, find average degree of retardation of deaf child to be one year, ten months. Believe this test well adapted to the testing of deaf children. (Exp.)

DREVER, J., "Intelligence Tests for the Deaf," *Teacher of the Deaf* (Eng.) 1929, 27, 163-167; abstract by Moore, G., *Volta Review*, 1929, 31, 270-271.
After testing 1,474 deaf children with the Drever-Collins Scale, finds results substantiate contention that "with language factor eliminated from test, doubtful if deaf children are retarded." (Exp.)

WHITE HOUSE CONFERENCE, "Special Education: The Handicapped and the Gifted," The Century Company, 1931, IIIF, 311-326.
A number of subjects are suggested for future research in both psychological and educational fields. Research on personality and character qualities is listed as important.

GUILMARTIN, M. D., "A Summary of Psychological Tests Applied to the Deaf," Volta Bureau, 1931, 24 pp.
Gives history of psychological testing of the deaf, explains some of the common tests and gives an interesting bibliography.

SHIRLEY, M., and GOODENOUGH, F. L., "A Survey of Intelligence of Deaf Children in Minnesota Schools," ANNALS, 1932, 77, 238-247.
Using Goodenough Intelligence Test find Minnesota deaf children are somewhat below the standards of hearing children. Using Pintner Non-Language Test find they average very close to Pintner's standards for hearing children and much above the median scores for deaf children in the National Survey. Give no explanation for these discrepancies. (Exp.)

SCHICK, H., and MEYER, M. F., "The Use of the Lectometer in Testing Hearing and Deaf," ANNALS, 1932, 77, 292-304.
The Lectometer is a non-verbal test of copying patterns. Believe it a valuable test in estimating a deaf child's ability. Results correlate satisfactorily with Binet Intelligence Test. (Exp.)

LONG, J. A., "Motor Abilities of Deaf Children," Teach. Coll. Contrib. Educ., No. 514, 1932, 67 pp.
Finds deaf superior in tests most influenced by muscular speed. In general, deaf and hearing were equal in motor ability. (Exp.)

MACKANE, K., "A Comparison of the Intelligence of Deaf and Hearing Children," Teach. Coll. Contrib. Educ., No. 585, 1932, 47 pp.

Finds deaf children less than a year retarded in performance tests and two years retarded in Pintner's non-language tests. Suggests these tests measure different abilities. (Exp.)

LYON, *et al.*, Report of the 1931 Survey of the Illinois School for the Deaf, ANNALS, 1933, 78, 157-175.

After giving educational and intelligence tests to the deaf children of the Illinois School find regrading necessary in many classes. Suggest a careful analysis of the elementary school in an attempt to determine why progress is so slow during early years. Recommend a yearly repetition of educational tests in order to measure a child's yearly progress. (Exp.)

FUSFELD, I. S., "What Standard Tests have shown at Gallaudet College," Proceedings of the International Congress on the Education of the Deaf, Trenton, N.J., 1933, 197-206.

Believes that results from standard tests allow fair prediction of possible success or failure of matriculating students, show the particular weakness of the student's preparation and are valuable in the classification of the students. (Exp.)

SCHICK, H. F., "The Use of a Standardized Performance Test for Pre-School-Age Children with a Language Handicap," Abstract: ANNALS, 1935, 80, 297.

Describes the tests used and the value of a reliable mental rating for the teacher. (Exp.)

FUSFELD, I. S., "Suggestions from the Use of Standard Tests at Gallaudet College," ANNALS, 1935, 80, 384-390.

Believes that standard achievement tests are valuable in predicting the success or failure of an entering student. Over a period of six years, has found a striking and positive relationship between the achievement level of standard tests and the student's chance of continuing in college work. (Exp.)

EDUCATIONAL METHODS

HALL, F. H., "The Relative Value of Sight and Hearing in Mental Training," ANNALS, 1902, 47, 444-455.

Finds congenitally deaf child lacks desire of reproducing and comparing when school work is mainly a "seeing" activity, while congenitally blind child has no desire for social activity when school work is too much centered on mere mental operations. Teacher must overcome these deficiencies arising from the child's handicap.

WERNER, F., "A Clear Voice from Across the Sea," ANNALS, 1903, 48, 155-177.

Signs must be dispensed with, as sign language has so little grammatical structure, and tends to isolate its users into a separate social group.

COBB, J. L., "Some Phases of Child Development," ANNALS, 1904, 49, 268-274.

Concentration, rather than imagination, will give best results in training deaf children.

STORY, A. W., "Language for the Deaf," Comment by Porter, S. M., ANNALS, 1905, 50, 475-487.

Signs do not supply the need for words in mental development. Translation of English into signs handicaps the user in his attempts to master the language.

STORY, A. J., "Why the Deaf Do Not Use Language," ANNALS, 1907, 52, 183-201.

The use of language depends upon the degree of appreciation of the idea and purpose of language.

THORNTON, M. E., "Memorizing and Its Effects," ANNALS, 1907, 52, 254-257.

Memorizing language lessons in the lower grades affects, to a great extent, the positive success of language lessons in the upper grades.

BALDRIAN, K., "Differences in the Natural and Artificial Acquisition of Language," ANNALS, 1908, 53, 7-15.

The artificial method is hard labor for the child, must be guided constantly by the teacher, includes too few natural expressions and does not stimulate the use of abstract ideas.

BINET, A., and SIMON, TH., "Oral and Manual Methods of Teaching the Deaf," *L'Année Phychologic*, 1909, 15, 373-396; ANNALS, 1910, 54, 4-33.

Found that graduates of a French oral school were not using speech and lip-reading to an extent justifying the oral method.

BOUDIN, E., "The Conditions of Success in Speech Reading," ANNALS, 1912, 57, 187-197.

Success in reading the lips is dependent upon (1) good eyesight, (2) a good teacher, (3) a faculty of mental interpretation and (4) the will to learn.

PUTNAM, G. H., "The Use of the Imagination," ANNALS, 1912, 57, 229-241.

The deaf child must be taught the use of the imagination as good judgment is a combination of imagination and reason.

PIERCE, J. A., "The Psychology of Spech Reading," *Volta Review*, 1914, 16, 56-59.

Likens speech reading to mind reading, to deducing rather than to reasoning. Fatigue element is an important factor in understanding.

PETERSON, P. N., "The Influence of Manual Training," ANNALS, 1915, 60, 119-129.

Believes training in the use of tools develops all the human faculties and trains the mind in clear thinking.

Report of the Efficiency Committee of the Conference of Superintendents and Principals of American Schools for the Deaf, ANNALS, 1915, 60, 179-183, 312-319; 1916, 61, 150-153.

At the first meeting of the committee a scale for measuring the efficiency of a school, an age and grade classification for pupils and a teacher's success scale were tentatively accomplished.

At the second meeting, the committee discussed the question of the comparative mentality at corresponding ages of deaf and hearing children. Believe certain mental and physical conditions are common and that norms can be established.

At the third meeting, the committee received reports on various subjects, particularly on "Educational achievement and intelligence testing." Believe that "in the end, science must reveal the universally valid fact."

PINTNER, R., and REAMER, J., "Problems Raised by the Survey of Schools," ANNALS, 1921, 66, 8-28.

Compare purely-orally-taught and purely-manually-taught pupils

and find perceptible indication that the manual method does not give enough stimulus to brighter pupils but that it does produce better results educationally when used with the very dullest pupils. Conclude that each group is accomplishing what it should when the native ability of the pupils is considered. Believe there is no indication of additional training transfer to reading and writing English from the oral method than from the manual method of instruction. (Exp.)

HOWSON, J. W., "Motivation in Schools for the Deaf," ANNALS, 1922, 67, 125-143.

Attempts at motivation should be used very carefully with the deaf and only if they do not interfere with established methods.

GATES, A. I., "An Experimental Study of Teaching the Deaf to Read," *Volta Review*, 1926, 28, 295-298.

Discusses need for reading ability in deaf, and explains that, theoretically, reading ability may be acquired independently of other linguistic instruction. (Exp.)

GAULT, R. H., "Touch as a Substitute for Hearing in the Interpretation and Control of Speech," *Archives of Otolaryngology*, 1926, 3, 121-135.

Explains a method of using tactile stimulation "to give deaf children a new cue to correct speech as a substitute for hearing." (Exp.)

GATES, A. I., and CHASE, E. H., "Methods and Theories of Learning to Spell Tested by Studies of Deaf Children," *J. Educ. Psychol.*, 1926, 17, 289-300.

Find deaf children retarded in ability to read but superior to hearing children in ability to spell. Believe due to a more careful visual study of word forms in final stage of learning. (Exp.)

THOMPSON, H., "An Experimental Study of Beginning Reading of Deaf-Mutes," Teach. Coll. Contrib. Educ., No. 254, 1927, 83 pp.

Finds that deaf children are able to accomplish five sixths as much as hearing children in beginning reading, or two and one half times that of present method by using proposed method. (Exp.)

TAYLOR, H., "Educational Problems of the Deaf," National Research Council, Division of Anthropology and Psychology. Conference on the Problems of the Deaf, Washington, D.C., 1928, 99-101.

Describes the educational problems facing teachers of the deaf and gives suggestions for a more efficient curriculum.

STOBSCHINSKI, R., "Lip-Reading: Its Psychological Aspects and Its Adaptation to the Individual Needs of the Hard-of-Hearing," Trans. by Neuchutz, L. M., ANNALS, 1928, 73, 234-243.

Compares the various methods of teaching lip-reading and discusses the application of methods according to individual needs.

LAURITSEN, M., "An Educational Experiment with a Young Deaf Child," ANNALS, 1928, 73, 433-442.

After using the "Teletactile" method with a young deaf child, believes this method of teaching is superior to teaching by lip-reading alone. Suggests modern educational methods to be used in stimulating the deaf child's "silent reading." (Exp.)

PATERSON, D. G., "Problems in the Education of the Deaf," ANNALS, 1929, 74, 373-386.

Tries to interpret some of the results which have been obtained from scientific studies in an effort to suggest new educational methods.

UPSHALL, C., "Day Schools vs. Institutions for the Deaf," Teach. Coll. Contrib. Educ., No. 499, 1929, 104 pp.
Finds that deaf children in day-schools seem to accomplish more than those in institutions. Uses data from Pintner survey of schools for the deaf. (Exp.)

HÖFLER, R., "Do Deaf Children Grasp Abstractions Readily?" *Volta Review*, 1931, 33, 75-78, (Abstract)
Says deaf children are more dependent on concrete relationships than are hearing children, probably due to language restrictions. (Exp.)

MADDEN, R., "The School Status of the Hard-of-Hearing Child," Teach. Coll. Contrib. Educ., No. 499, 1931, 64 pp.
Compares the intelligence, language ability, achievement, and personality of the deaf with that of the hearing child. (Exp.)

FROHN, W., "Experiments on the Thinking of the Deaf," *Volta Review*, 1931, 33, 313-316. (Abstract)
Believes deaf child can master abstraction in thinking, but only after much exercise of simple thought processes. (Exp.)

THOMPSON, W. H., "Leaves from a Psychologist's Notebook," ANNALS, 1932, 77, 126-131.
Believes emphasis in deaf child's education should be on "experience" situations rather than on language or speech work.

GROFF, M. L., "An Analysis of the First-Year Vocabularies of the Public Residential Schools for the Deaf in the United States," ANNALS, 1932, 77, 304-314; 1933, 78, 120-131, 219-228, 418-427; 1934, 79, 147-160.
From vocabularies submitted by a wide sampling of the residential schools for the deaf and after comparison of these vocabularies with previous studies of hearing children's vocabularies, the author has formulated a basic first-year vocabulary for six-year-old deaf children and suggests it be used as the aim of the first grade in schools for the deaf. (Exp.)

INGVARSSON, I., "Language Teaching in a School for the Deaf," *Volta Review*, 1933, 35, 5-10.
Says child's actual experience should be the basis of language lessons and as much as possible the acquisition of language should parallel that of the hearing child.

KAWAMOTO, U., "The Psychological Basis of Teaching Language to the Deaf," *Volta Review*, 1934, 36, 12-16.
Explains Japanese method of teaching the deaf which attempts to parallel the acquisition of language by hearing children.

LYONS, V. W., "A Study of Vocational Abilities of Students Who Have Attended the Illinois School for the Deaf," *J. Appl. Psychol.*, 1934, 18, 443-453.
Finds that vocational training in a school for the deaf does not have a close correlation with the vocation finally chosen by the graduate. Suggests many desirable changes. (Exp.)

MOORE, L. M., "Psychology of Multi-Lingualism," *Volta Review*, 1934, 36, 7-9.

Explains the difficulties in reasoning and abstract thinking experienced by deaf pupils using both oral and sign language.

MEYER, M. F., "Fitting into a Silent World., *Univ. of Mo. Studies,* 1934, 9, 104 pp.
Describes and advocates a method of shorthand based upon phonetics to train the deaf child in language through reading. (Exp.)

GOODFELLOW, L. D., "Vibratory Sensitivity: Its Present Status," *Psychol. Bulletin,* 1934, 31, 560-566.
Reviews Dr. Gault's experiments with the teletactor, listing the experimental results revealed by laboratory studies as well as the results revealed by practical application in the education of the deaf.

MENTAL HYGIENE

PEARCE, F. S., "A Study of the Deaf, with an Analysis of 175 Pupils at the Pennsylvania Institution for the Deaf and Dumb," ANNALS, 1901, 46, 39-61.
On the basis of medical examination, Dr. Pearce finds needs for special teaching methods up to the eighteenth year to counteract problems of adjustment to deafness. Children, who became deaf after seventh year, are more often adjustment problems than "hereditary-deaf." (Exp.)

VEDITZ, G. W., "The Sound Memories of a Semi-Mute," ANNALS, 1909, 54, 117-126.
Language is always a thing of sound. These auditory memories vary in direct ratio to the age of the person at occurrence of deafness.

SCHNEIDER, M., "The Thought and Language of the Deaf-Mute," ANNALS, 1910, 55, 164-172.
The prohibition of signs has an undesirable effect on the pupil's acquisition of word-language as well as on his personality.

HAMMOND, F. J., "Deafness in Adult Life," ANNALS, 1911, 56, 259-261.
Mentions horror of silence at night, coupled with risk of being surprised, as some of the most distressing results of total deafness.

LOWRY, C. D., "Physiology and Psychology of the Deaf Child," ANNALS, 1912, 57, 241-253.
Finds congenitally deaf more likely to be deficient mentally than hearing child, that illness resulting in deafness may cause abnormalities and that deaf children have an emotional deficiency.

WALKER, E. W., "The Deaf Mind; Its Limitations," ANNALS, 1912, 57, 474-483.
The deaf mind is lacking in imagination, emotion and will.

LONG, J. S., "The Exceptional Child," ANNALS, 1917, 62, 154-164.
Lists causes for pedagogical retardation and says segregation of backward children is inevitable.

LLOYD, W. H., "The Deaf in Their Relations with Others," ANNALS, 1917, 62, 112-121.
Lists many helpful hints to deaf person to enable him to adapt himself to society and to his environment.

PINTNER, R., and OSBORN, D., "The Mentality of the Families of the Congenitally Deaf," ANNALS, 1919, 64, 96-134.
Finds that families of some congenitally deaf children have defects

denoting weaker and more unstable constitutions than are found in families of average hearing persons. (Exp.)

NEVILLE, B., "Psychology of the Deaf Child," *Volta Review,* 1921, 23, 362-364.

Finds it difficult to understand the psychology of the deaf child, as unknown environment and life conditions play such an important part.

MIDDLETON, W., "Things Affecting the Emotions Through the Ear," ANNALS, 1923, 68, 190-205.

Declares sound plays an important rôle with emotions, and that, among the so-called deaf, there exist compensatory phenomena.

MENNINGER, K. A., "Mental Effects of Deafness," *Volta Review,* 1923, 25, 439-445.

Discusses the various types of satisfactory and unsatisfactory compensations found in different deaf individuals.

HAINES, C. M., "The Effects of Defective Hearing upon the Individual as a Member of the Social Order," *J. Abn. and Soc. Psychol.,* 1927, 22, 151-160.

Discusses the hard-of-hearing adult's problem and mentions ways by which a satisfactory adjustment can be achieved.

TILLINGHAST, H., "Some Factors that Make for a Different Psychology of the Deaf," *Volta Review,* 1927, 29, 407-408.

Lists a number of factors which educators must consider and remove in order that education of the deaf may be more efficient.

ALLISON, M. G., "Mental Hygiene as Applied to Work with Deafened from the Psychiatric Social Worker's Point of View," *Volta Review,* 1929, 31, 646-649.

Discusses common maladjustments of the deaf and the methods used by a mental hygienist in working out deaf person's compensatory schema.

MENNINGER, K. A., "The Human Mind," Alfred A. Knapp, Inc., 1930, 163-169.

Feels that deafness is a permanent handicap to life adjustments. Says the deaf compensate satisfactorily in some cases, while in others there is failure in varying degrees.

FRANZ, S. I., "Psychological Problems of the Deaf," *Volta Review,* 1932, 34, 545-546.

The psychological principle underlying all education of the deaf is the individual's attitude toward himself and his environment.

PLANT, J. S., "Mental Hygiene Aspects of Problems of the Deaf," Senate Document No. 14, 74th Congr., 1st Session, 1933, 40-42.

Describes the problems of the deaf in connection with the three periods of the Mental Hygiene Movement.

WILE, I. S., "Some Mental Hygiene Problems of the Deaf," Senate Document No. 14, 74th Congr., 1st Session, 42-52.

Believes that educators of the deaf should place less stress upon deafness and mutism and more emphasis upon "the methodology requisite to foster normal personalities."

BRILL, T., "Mental Hygiene and the Deaf," ANNALS, 1934, 79, 279-285.

Gives opinions, based upon wide experience, on the psychological factors influencing the behavior of deaf children.

LYONS, V. W., "Use of Vocational and Personality Tests with the Deaf," *J. Appl. Psychol.*, 1934, 18, 224-230.

Finds need for vocational tests as a step toward vocational placement and that personality tests show that the deaf, as a group, have more emotional problems than the hearing. (Exp.)

LYON, V. W., "Personality Tests with the Deaf," ANNALS, 1934, 79, 1-4.

Finds psychologist's assertion that deaf children have more emotional problems than hearing children is valid after examining the answers to the Thurstone Personality Schedule made by deaf children. (Exp.)

Miscellaneous

I. S. F.

Effect of Factory Noises Upon the Personality.—That the pounding noises of present-day occupational activities have an insidious and injurious effect not only upon the hearing capacity of the individual but also upon the personality as a whole is the contention of physicians, as explained in the following report in the *New York Herald Tribune* for October 22, 1936:

Noise constitutes a factory hazard just as important as gases, fumes, dust, toxic liquids, bacteria and chemical rays, and for the betterment of the country's vast labor population noise abatement "should be given its rightful place in the industrial world," Dr. Foster Kennedy, professor of clinical neurology at the Cornell University Medical College, said last night at the New York Academy of Medicine. He and Dr. Robert H. Kennedy spoke at the third evening session of the academy's ninth annual graduate fortnight, which this year is being devoted to trauma and occupational diseases and hazards.

The human ear, Dr. Foster Kennedy said, is a sensitive organ that responds to impulses of the "finest kind." Moreover, any impairment of hearing, in the very nature of the case, is insidious and hardly noticed at first, Dr. Kennedy explained.

"In the light of the observations and opinions of scientific authorities," Dr. Kennedy said, "we must accept the fact that hearing is definitely affected in those persons who are constantly exposed to loud noises. According to a general estimate, 60 to 80 per cent of the population at present has ear trouble caused by mechanical noise. Very loud noise has a disruptive action in addition to a fatigue effect.

"In attempts to overcome the effects of noise, great strain is put on the nervous system. Long before the emotions are disturbed, certain changes take place, such as heightened blood pressure, heightened pulse rate and some irregularities in heart rhythm.

"The subtle psychological attack resolves into two problems: the effect of noise upon the character of the work and the influence upon the worker himself."

Pressure of the Problem of Hard-of-Hearing Pupils.—Superintendent A. C. Manning of the Western Pennsylvania School, in the following striking editorial in the *Western Pennsylvanian,* November 19, 1936, refers to a problem of increasing concern to schools for the deaf.

Hard-of-Hearing Pupils

One of the difficult problems with which residential schools for the deaf have always struggled has been the hard-of-hearing child. Until recent years, when the audiometer arrived, making definite hearing tests possible, it has been uncertain just how many of our hard-of-

hearing pupils had too much hearing to be in our schools with deaf children. Now that we can make fairly accurate records of the amount of hearing children possess, we are sure that the public schools are crowding out children who should be there and not in a school for the deaf.

Our claim is that the public schools should keep these children, providing them with instruction by means of electrical hearing aids. Thus far we have been able to keep the number of this type of pupil in our school at a minimum. When these pupils are repeatedly refused admission to the public schools, we admit them on trial. Our policy has been to give them a reasonable try-out, and, if they prove to have too much hearing to stay here, we refer them to the State Department of Public Instruction at Harrisburg. This is a school for children who because of defective hearing cannot make satisfactory progress in the public schools. *We believe the public schools should not exclude a hard-of-hearing child from their classes until every possible effort has been made to educate him at home.*

Two forces have combined in recent years to make this problem so pressing. One is the great advance in precise audiometric detection of hearing loss, and the other is an awakened realization on the part of educators and health agencies in general that hearing defects constitute one of the major social and health problems of our day. An aggressive concentration on the entire question by the American Society for the Hard of Hearing has succeeded in focusing nation-wide attention to it, with an increasing demand that action be taken.

So far as the problem concerns children of school age, it is no solution to send hard-of-hearing children to schools for the deaf. The educational situation with respect to the needs of deaf children, involving as it does a special curriculum, a special speech and a special language-teaching program, is not one which meets the needs of hard-of-hearing children. The two types of education cannot be practicably combined, and it is time that public school authorities be convinced of that fact.

Essentially, the education of hard-of-hearing children should utilize the sense of hearing, with the proper correctional devices, as the main avenue of instruction. If this is not possible in the large crowded public schools, the logical procedure is the establishment of special schools for the hard of hearing. If present estimates of the extent of serious defects of hearing in school children are even generally reliable, the number of such children requiring special school

treatment would be far too great a tax on the facilities of schools for the deaf as at present organized.

Work of a Deaf Sculptor Honored.—In the November 28, 1936, issue of *New Yorker Staats-Zeitung* appears a picture (Wide World Photo) showing the talented European deaf sculptor, Gustinus Ambrosi, with the Austrian chancellor, Kurt Schuschnigg, and a remarkably life-like bust of the chancellor. The bust, executed by Herr Ambrosi, is by decision of the Austrian ministry of culture to be placed on exhibit at the biennial art exhibition in the city of Venice.

The sculptor is an Austrian of Italian ancestry, speaks Italian and German, and writes poetry in both languages.

Day-School Changes in Iowa.—We are informed by Mrs. E. C. Evans, state agent for the deaf and blind, Iowa State Board of Education, that there has been a day-school for deaf children in Webster City, Iowa, for three years, the teacher in charge being Mrs. Myrtle Long Henderson. The day-school at Dubuque has been closed for over three years.

Certification.—Since publication of the last list, in the January ANNALS, seven names have been added to those who have applied for certification by the Conference:

Margaret Ella Ames, American School.
Samuel Guy Benning, New York School.
Alice Marie Eibeck, Florida School.
Max Friedman, American School.
Esther M. Paulson, Saskatchewan School.
Inez Easton Pratt, Louisiana School.
Harold Edward Thranhardt, New York School.

Reports of Schools.—The following reports of schools have been received:

General Summary, for the year ending June 8, 1936, Instituut voor Doofstommen, Groningen, Netherlands.

Fourth Annual Report of Queensland Branch of Australian Association for the Advancement of the Deaf, June 30, 1936.

Biennial Report of the Idaho State School for the Deaf and the Blind for the Biennium 1935-1936.

A Study of the Personality Adjustment of Deaf Pupils.—In a recent study reported in the *Journal of Genetic Psychology,* 1936, vol. 49, pp. 377-388, on "Some Personality Adjustments of Deaf Children in Relation to Two Different Factors," Drs. R. Pintner and L. Brunschwig of Teachers College, Columbia University, give the results of the application of the Adjustment Inventory for Deaf Children on a wide scale among schools for the deaf. This is the personality scale explained in another part of this issue of the ANNALS, pp. 152-167.

The two-fold purpose of the study was to determine, 1, the relative influence on personal adjustment of the different methods of instruction, the combined, the manual and the oral methods, and 2, the relative effect upon personality of having one or more other deaf members in the family.

After the data had been subjected to careful statistical treatment, the results indicated that orally taught children obtain higher mean scores in general and social adjustment than do pupils taught by the combined method, and the latter in turn slightly surpass manually taught pupils in the same respects as well as in school and home adjustment.

The authors assert, however, that these facts are not necessarily proof that better personality adjustment is due to a particular method of instruction, since it is likely for instance that better adjusted pupils in the first place may have been selected for oral instruction. This factor of selection must be experimentally accounted for before differences in these fields may be accepted as significant.

With respect to the factor of presence of deafness in each child's family, it appears on the whole the poorest results were recorded by pupils with no deaf members in the family, the next higher group so far as personality adjustment was concerned comprised children having one or more deaf brothers or sisters, followed by children with deaf parents. The highest adjustment ratings were scored by pupils with deaf relatives but with hearing parents and siblings.

Finally, the report indicates the inventory to be a more valid instrument with boys than with girls.

Beneficial State Legislation.—The State of New York in the past year enacted two laws of special meaning for those whose work is with the deaf. This was the result of the combined efforts of many of the organizations concerned with the deaf and the hard of hearing in New York, and with the fine support especially of a member of the State Senate who undertook the sponsoring of the legislation, Hon. Jacob H. Livingston. The first of these two acts calls for mandatory reports on children suffering from perceptible loss of hearing, while the second provides for facilities for testing the hearing of school children.

Owing to the importance of this legislation, as well as for the suggestions it may offer for other states, the ANNALS feels justified in reproducing the two acts.

The first is called An Act to Amend the Public Health Law, in Relation to Reports to be Made Concerning Children with Impaired Hearing, and reads as follows:

It shall be the duty of every attending or consulting physician, nurse, parent or guardian having charge of any minor under six years of age who is totally deaf or whose hearing is impaired to report at once by telephone or in person or in writing the name, age and residence of such minor to the state commissioner of health and to furnish such additional information as the commissioner shall require. If the commissioner, after investigation, finds that such minor is not receiving adequate care and treatment, he shall report the facts relative to such minor to the appropriate welfare or other official or agency which may provide care and treatment. If the case of such minor is referred to a welfare officer, when he has approved the provision of such medical or surgical care and treatment as is needed and which the parent is unable to provide, the cost thereof shall be a charge against the local public welfare district. The state commissioner of health shall in each instance notify the state commissioner of education of his disposition of the case, and the name of the official or agency to which referred. The commissioner of education, when in his judgment it is desirable, shall communicate to the parent, guardian, official or agency the location of the resident schools for the deaf and also the nearest public school having special classes and also instruction for the hard of hearing with information concerning the advantages offered by the school and the benefits to accrue to the child from attendance at such school, classes or instruction.

This act shall take effect immediately.

The second of the two statutes relates to tests of hearing, and is called An Act to Amend the Education Law, in Relation to the Use of Scientific Devices in Connection with

Hearing Tests and Providing for the Appointment of an Audiometer Technician. It reads as follows:

Medical inspectors or principals and teachers in charge of schools in this state shall make eye and ear tests of the pupils in such schools, at least once in each school year. Such tests for hearing shall be made with audiometers or with such other scientific devices as may meet the approval of the commissioner of education. The commissioner of education shall prescribe and furnish to the school authorities suitable rules of instruction as to tests and examinations made as provided in this article, together with test cards, blanks, other useful appliances and suitable apparatus when necessary for carrying out the purposes of this article. The commissioner of education shall provide for pupils in the state colleges for teachers and normal school instruction and practice in the best methods of testing the sight and hearing of children. He shall also furnish any necessary scientific apparatus.

1. State specialist for eyes and ears; state audiometer technician. The commissioner of education shall also appoint a specialist for eyes and ears in the bureau of medical inspection who shall receive an annual salary, to be fixed by the commissioner within the amount of moneys appropriated therefor. He shall assist the state medical inspector in making eye and ear tests of the pupils of the schools as required by this article. He shall also assist in providing for students in the state colleges for teachers and normal schools instruction and practice in the best methods of testing the sight and hearing of children and shall perform such other duties as the commissioner of education may prescribe.

2. The commissioner of education shall appoint a competent person to supervise audiometer tests. Such person shall be licensed to teach in the public schools of this state, shall be thoroughly familiar with the use and purpose of audiometers, and shall have some experience in medical social service. The person shall receive an annual salary, to be fixed by the commissioner within the moneys appropriated therefor. Such person shall supervise the use of audiometers and other scientific apparatus used in hearing tests and perform such other duties as may be assigned by the state specialist for eyes and ears.

This act shall take effect July 1, 1936.

At a joint conference in Washington, D.C., January 15, 1937, a Special Legislative Committee made up of the representatives of thirteen agencies in the work for the handicapped was authorized for the purpose of securing the enactment of the bill here described. Mr. E. Jay Howenstine, executive secretary of the International Society for Crippled Children, was chosen chairman of this committee, whose members include Dr. E. A. Gruver, president of the American Association to Promote the Teaching of Speech to the Deaf, Dr. Harris Taylor, president of the Convention of American Instructors of the Deaf, and Miss Betty C. Wright, executive director of the American Society for the Hard of Hearing.

Proposed Federal Legislation in Aid of Education for the Physically Handicapped.—A number of the major organizations interested in the welfare of physically handicapped children are sponsoring special legislation by Congress to broaden existing facilities for the education of such children. One bill, in particular, proposes an appropriation of $11,580,000 for the aforesaid purpose. By this proposal each State (including the Territories of Alaska and Hawaii, the island of Puerto Rico, and the District of Columbia) will be allotted $40,000 (total $2,080,000) to establish, extend and improves services for educating physically handicapped children. This amount will not require matching, so as to enable States to make educational provisions where most needed.

The amount of $9,000,000 is to be matched by the States in the same service of handicapped children.

According to a brief prepared by advocates of the bill

> The need for Federal support in this field of special education is evidenced by the small percentage of physically handicapped children who are afforded an opportunity in their respective States for proper and adequate education. Generally speaking there are a million and a half to two million children who would fall under the definition of the physically handicapped as defined in this bill. Of this number, less than 150,000 are receiving special educational advantages.
>
> The money so appropriated under this bill will be used in paying the cost of services for the education of physically handicapped children over and above the cost of educating physically normal children. It is estimated that approximately $14,000,000 is now being expended by the various States to pay for the excess cost of educating less than 150,000 children referred to above.

A further appropriation of $500,000 is asked in the same bill for allocation to the U. S. Office of Education for administration of the bill and to conduct studies, investigations, reports and similar activities.

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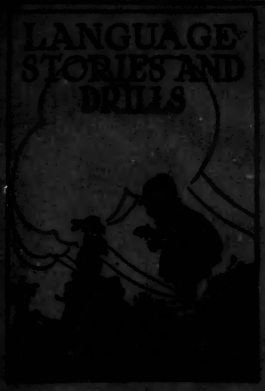

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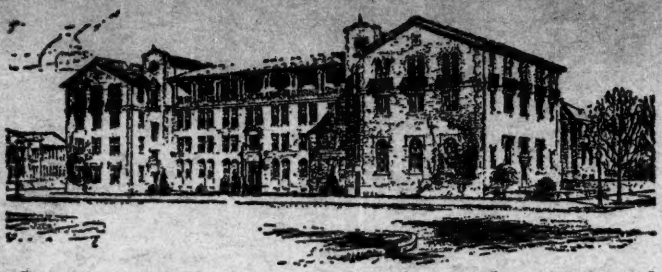

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